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SOILS OF THE ANNAPOLIS VALLEY AREA OF NOVA SCOTIA

CANADA/NOVA SCOTIA
AGRI-FOOD INDUSTRY
DEVELOPMENT AGREEMENT
1982-1987

Canada

Report No. 22
Nova Scotia Soil Survey

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PREFACE

This report contains soil information in prose, tabular and map form for approximately 140 000 ha of portions of Annapolis Valley, North Mountain and South Mountain. The aim of this 1:20 000 survey is to provide information on the soils to aid in the development of the agricultural land base.

Part 1 contains a general description of the survey area including physiography, climate, vegetation and land use. Part 2 contains survey, mapping and laboratory methods. Soil materials, landform, and soil profile characteristics are described in Part 3. Part 4 contains interpretations of map units for selected agricultural crops.

This publication is Report No. 22 of the Nova Scotia Soil Survey. It is one of a series of three soil surveys of significant agricultural areas of Nova Scotia. All three were funded under the Canada/Nova Scotia Agri-Food Development Agreement.

The soil maps, legend and report each provide complementary information. To manually retrieve map information, the following steps are suggested:

1. Locate the area of interest on the soil map using the key map if necessary.

2. Note the map unit symbol(s) in the area of interest.

3. If soil attribute information is required, interpret the symbols using the legend and the sample symbol found on it. For more specific information on the soils, consult the section entitled SOIL AND MAP UNIT DESCRIPTIONS. Soils are listed there in alphabetical order by symbol, not name.

4. If soil interpretive information is required, find the map unit symbol(s) in the appropriate tables in the section entitled SOIL INTERPRETATIONS.

For maps in digital form or for raw analytical data, request help from the Canada-Nova Scotia Soil Survey at the Nova Scotia Agricultural College in Truro or the Land Resource Research Centre in Ottawa.

PART 1. GENERAL DESCRIPTION OF THE AREA

Location and extent

The survey area is located in the Annapolis Valley of Nova Scotia. It covers about 140 000 ha on 55 map sheets (Fig. 1) not previously covered by the Detailed Soil Survey of Kings Co. Nova Scotia (Bowen 1982, 1984). Ninety-five percent of the survey area is in Kings and Annapolis counties with the remainder in Hants and Digby counties. The area lies between latitude 44^0 35' and 45^0 15' north and longitude 64^0 10' and 65^0 45' west.

Physiography

The survey area extends over the North Mountain, Annapolis Valley and Southern Upland physiographic regions (Roland 1982) (Fig. 2).

Southern Upland

The southern part of the survey area is located on the northern edge of the Southern Upland and is underlain by Cambrian slate and quartzite and intrusions of Devonian granite. Near the Minas Basin, Carboniferous sedimentary rocks overlie the older Cambrian rocks (Trescott 1968). Elevations of the Southern Upland are highest near the escarpment (150 - 180 m asl) with occasional peaks of 290 m. The surface of the Southern Upland is gently sloping to the south and west. Local relief is less than 90 m except along the Gaspereau Valley where scarps may rise 180 m above the valley floor. Those areas of the Southern Upland that are underlain by granite or quartzite are covered by shallow, stony, loamy-skeletal and coarse loamy-gravelly glacial till. Areas of fine loamy and fine loamy-gravelly till are usually underlain by slate, shale or siltstone. Glaciofluvial deposits on the Southern Upland include kames and outwash deposits ranging in particle size from coarse gravel to fine sands (Roland 1982). Kames are abundant along the northern slopes of the Southern Upland. Near Nictaux and Torbrook, kame terraces are prevalent and merge into finer material on the valley floor.

Annapolis Valley

The Annapolis Valley physiographic region (Fig. 2) is underlain by Triassic sandstone and shale (Trescott 1968). Relief on the valley floor is flat to gently rolling depending on the nature and depth of the surficial materials

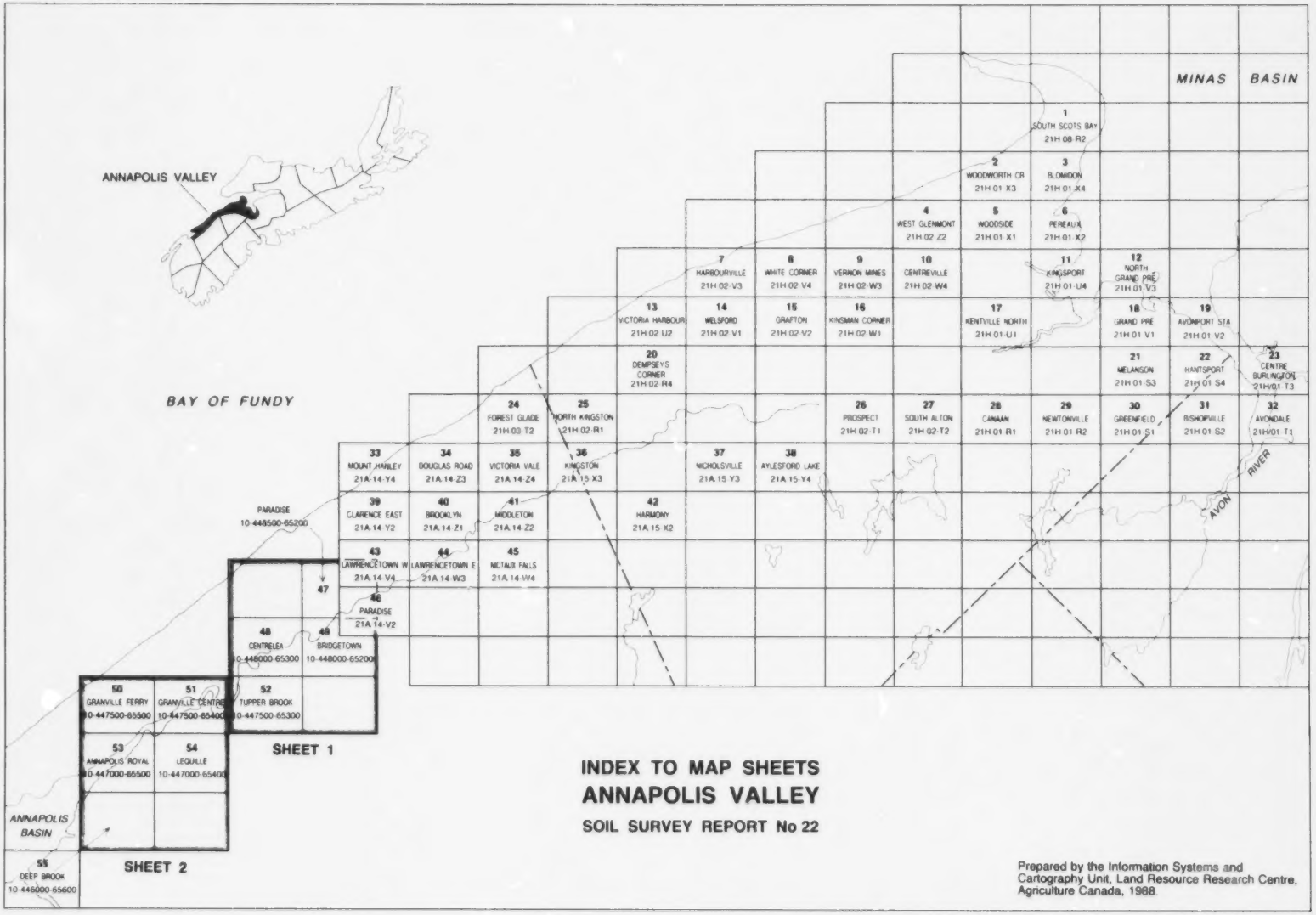

ANNAPOLIS VALLEY
BAY OF FUNDY
MINAS BASIN
1 SOUTH SCOTS BAY 21H 08 R2
2 WOODWORTH CR 21H 01 X3
3 BLOMIDON 21H 01 X4
4 WEST GLENMONT 21H 02 Z2
5 WOODSIDE 21H 01 X1
6 PEREAUX 21H 01 X2
7 HARBOURVILLE 21H 02 V3
8 WHITE CORNER 21H 02 V4
9 VERNON MINES 21H 02 W3
10 CENTREVILLE 21H 02 W4
11 KINGSPORT 21H 01 U4
12 NORTH GRAND PRE 21H 01 V3
13 VICTORIA HARBOUR 21H 02 U2
14 WELSFORD 21H 02 V1
15 GRAFTON 21H 02 V2
16 KINSMAN CORNER 21H 02 W1
17 KENTVILLE NORTH 21H 01 U1
18 GRAND PRE 21H 01 V1
19 AVONPORT STA 21H 01 V2
20 DEMPSEYS CORNER 21H 02 R4
21 MELANSON 21H 01 S3
22 HANTSPORT 21H 01 S4
23 CENTRE BURLINGTON 21H/01 T3
24 FOREST GLADE 21H 03 T2
25 NORTH KINGSTON 21H 02 R1
26 PROSPECT 21H 02 T1
27 SOUTH ALTON 21H 02 T2
28 CANAAN 21H 01 R1
29 NEWTONVILLE 21H 01 R2
30 GREENFIELD 21H 01 S1
31 BISHOPVILLE 21H 01 S2
32 AVONDALE 21H/01 T1
33 MOUNT HANLEY 21A 14 Y4
34 DOUGLAS ROAD 21A 14 Z3
35 VICTORIA VALE 21A 14 Z4
36 KINGSTON 21A 15 X3
37 NICHOLSVILLE 21A 15 Y3
38 AYLESFORD LAKE 21A 15 Y4
39 CLARENCE EAST 21A 14 Y2
40 BROOKLYN 21A 14 Z1
41 MIDDLETON 21A 14 Z2
42 HARMONY 21A 15 X2
43 LAWRENCETOWN W 21A 14 V4
44 LAWRENCETOWN E 21A 14 W3
45 NICTAUX FALLS 21A 14 W4
46 PARADISE 21A 14 V2
47
48 CENTRELEA 10-448000-65300
49 BRIDGETOWN 10-448000-65200
50 GRANVILLE FERRY 10-447500-65500
51 GRANVILLE CENTRE 10-447500-65400
52 TUPPER BROOK 10-447500-65300
53 ANNAPOLIS ROYAL 10-447000-65500
54 LEQUILLE 10-447000-65400
55 DEEP BROOK 10-446000-65600
PARADISE 10-448500-65200
SHEET 1
SHEET 2
ANNAPOLIS BASIN
AVON RIVER
INDEX TO MAP SHEETS
ANNAPOLIS VALLEY
SOIL SURVEY REPORT No 22
Prepared by the Information Systems and Cartography Unit, Land Resource Research Centre, Agriculture Canada, 1988.

Figure 1. Location of map sheets

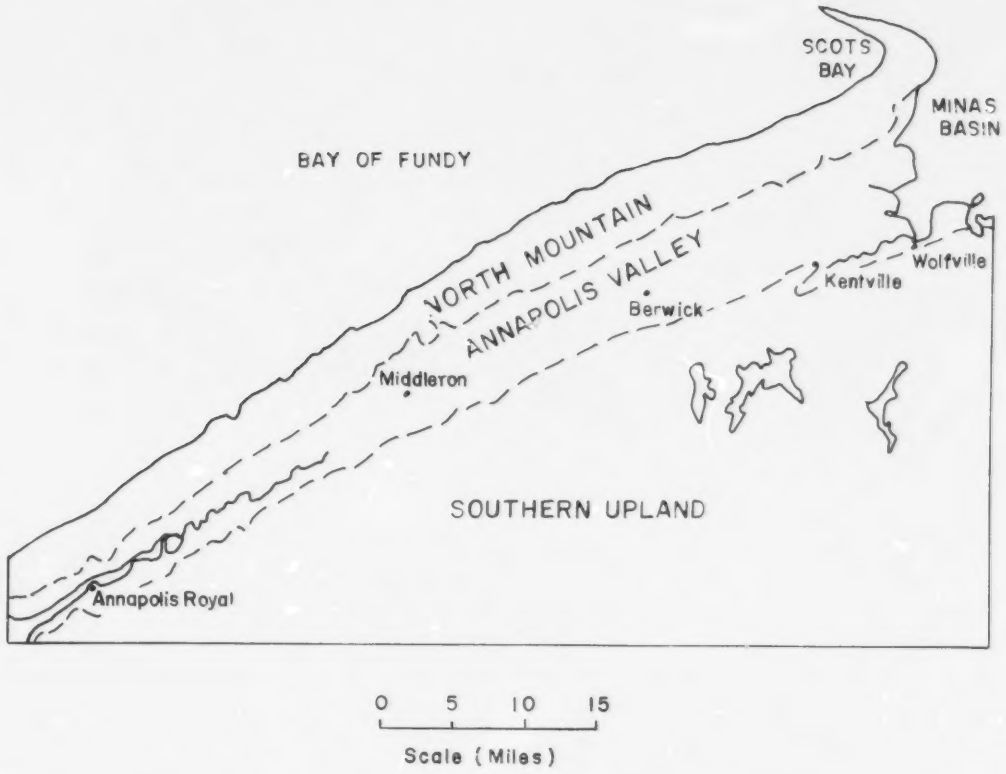


Fig. 2. Physiographic regions of the survey area (Roland 1982).

(Goldthwait 1924). Bedrock has the greatest influence on the topography at the eastern end of the valley where only a thin mantle of glacial drift covers broad, discontinuous, sandstone ridges (Goldthwait 1924). Southwest of Berwick the only bedrock exposures are along the bed of the Annapolis River and along the flanks of the valley where streams have cut through the overlying drift (Trescott 1968). Elevations in the central portions of valley floor near Berwick range from 7.5 m asl in the center to 90 m on the north side and 60 - 150 m on the south side.

The change in elevation of the valley floor from Bridgetown to Kentville is uniform and gradual (Roland, 1982). However, this trend changes from Kentville east to Minas Basin. This area is divided into three sections. The first, the area between the Cornwallis and Canard Rivers, has undulating to gentle slopes with a high elevation of 60 m. The second, between the Canard River and Habitant Creek, has undulating to

level slopes with an elevation of 30 m and the third, between Habitant Creek and North Mountain, has undulating to gently rolling slopes.

The valley floor east of Wolfville is dominated by tidal flats and dykelands with elevations below sea level.

About half of the soils in the Annapolis Valley physiographic region have developed on glacial till. The till is either coarse loamy or fine loamy depending on whether the underlying bedrock is sandstone or shale. About 30 percent of the soils have developed from sandy glaciofluvial deposits. The remainder have developed on tidal flats, alluvium and peat or muck (Cann et al. 1965). Soils on the valley floor are mainly coarse loamy and sandy. Both fine loamy and coarse loamy soils occur at the base of North and South Mountains. Fine loamy soils are found at both ends of the valley.

North Mountain

The North Mountain is composed of Triassic basalt lava flows (Roland 1982). The basalt occurs as massive flows which have columnar joints that dip 4 to 10 degrees towards the Bay of Fundy. The distinctive columnar structure common to basalt formations can be seen where the bedrock is exposed. The North Mountain is a cuesta with a steep scarp slope facing the Annapolis Valley and a gentle dip slope facing the Bay of Fundy. The dip slope is broken in places by irregular and discontinuous flows capping the North Mountain (Trescott 1968). These flows are about 175 meters thick and the depressions between them are sometimes occupied by lakes.

Elevations of the North Mountain near the crest are 180 - 225 m with a maximum 270 m. Relief along the North Mountain consists of a series of undulating to gentle slopes that form parallel ridges that incline toward the Bay of Fundy. A series of gullies and ravines have cut through the ridges in a southerly direction and serve as drainage channels for the region. Gullies and ravines become quite deep and steep sided as they approach the Bay of Fundy. Through the Clarence East and Mount Hanley areas the parallel ridges are less prominent and the relief is uniform and gently sloping toward the Bay of Fundy. Soils of the North Mountain have developed predominately on till veneers containing large amounts basaltic gravels, cobbles and boulders (Cann et al. 1965). The soils are generally coarse loamy-gravelly or loamy-skeletal and stony. Rock outcrops are common and are generally located on south facing slopes and the crests of ridges.

Climate

The survey area is located within (Fig. 3) the Bay of Fundy, Annapolis Valley and Western Nova Scotia climatic regions (Dzikowski 1984).

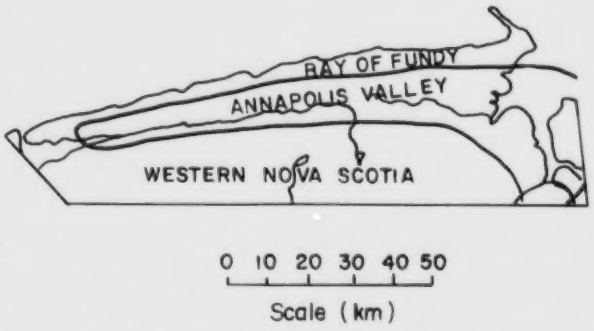


Fig. 3. Climatic Regions (Dzikowski 1984).

Bay of Fundy. The Bay of Fundy climatic region has long, cool summers and mild winters due to strong coastal influences. There is frequent fog and moderate amounts of precipitation. There are no weather stations located in the survey area to represent this region.

Annapolis Valley. The Annapolis Valley climatic region has the warmest temperatures and the second lowest precipitation totals in the province. Representative weather stations for this region are: Clementsvale, Clarence, Paradise, Greenwood `A', Sheffield Mills, Kentville and Windsor. Data from the weather stations can be found in Table 1 while weather station locations are shown in Figure 4.

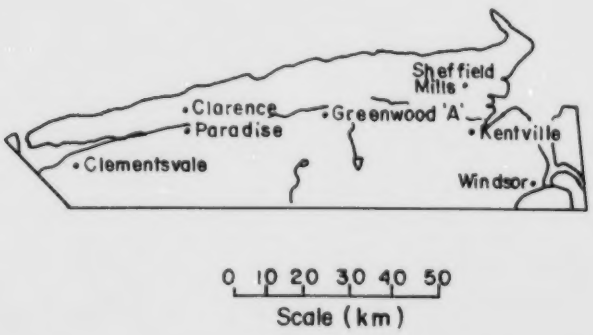


Fig. 4. Weather stations (Dzikowski 1984).

TABLE 1. Monthly temperature and precipitation data for representative stations

Mean data	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
WINDSOR													
Daily Temp.(°C)	-5.3	-5.6	-1.3	4.5	10.3	15.7	19.1	18.6	14.2	8.9	3.9	-2.5	6.7
Snowfall (cm)	57.5	56.1	42.0	9.3	1.5	0.0	0.0	0.0	0.0	2.5	9.2	47.4	225.5
Total Precip. (mm)	134.9	119.1	105.5	79.8	85.0	68.0	71.3	89.7	91.7	104.2	129.2	142.3	1220.7
KENTVILLE													
Daily Temp.(°C)	-5.0	-5.2	-1.0	4.4	10.4	15.9	19.2	18.4	14.3	9.1	4.0	-2.4	6.8
Snowfall (cm)	71.6	64.9	50.2	14.6	1.6	0.0	0.0	0.0	0.0	2.6	12.1	57.4	275.0
Total Precip. (mm)	135.6	106.8	98.5	82.6	77.3	71.2	70.2	98.1	85.5	101.9	119.4	130.3	1177.4
SHEFFIELD MILLS													
Daily Temp.(°C)	-5.1	-5.2	-1.0	4.5	10.5	16.0	19.1	18.6	14.2	9.1	4.2	-2.3	6.9
Snowfall (cm)	65.1	60.9	40.7	8.5	0.8	0.0	0.0	0.0	0.0	1.7	10.5	38.9	227.1
Total Precip. (mm)	119.7	101.2	83.7	70.8	80.3	75.6	70.0	93.8	86.7	104.0	114.0	116.3	1116.1
GREENWOOD 'A'													
Daily Temp.(°C)	-5.0	-5.4	-0.9	4.6	10.5	15.9	19.1	18.3	13.8	8.6	3.9	-2.3	6.8
Snowfall (cm)	75.9	62.5	48.1	17.4	2.0	0.0	0.0	0.0	0.0	2.7	14.6	61.6	284.8
Total Precip. (mm)	125.6	90.1	84.1	75.5	73.9	71.6	77.6	90.0	84.0	98.0	108.4	120.2	1099.0
CLARENCE													
Daily Temp.(°C)	-5.4	-5.9	-1.1	4.3	10.2	15.3	18.6	18.0	13.5	8.5	3.7	-2.9	6.4
Snowfall (cm)	76.7	67.1	44.6	11.8	1.8	0.0	0.0	0.0	0.0	2.4	9.3	64.4	278.1
Total Precip. (mm)	133.5	103.5	94.5	76.9	82.0	82.2	85.9	92.9	94.0	108.3	118.5	139.5	1211.7
CLEMENTSVALE													
Daily Temp.(°C)	-4.9	-5.7	-1.4	4.1	9.6	14.8	17.8	17.0	12.7	7.9	3.5	-2.4	6.1
Snowfall (cm)	63.3	53.1	37.3	8.1	1.3	0.0	0.0	0.0	0.0	2.5	10.0	45.0	220.6
Total Precip. (mm)	167.4	125.2	113.8	92.6	89.8	81.6	76.2	92.7	95.8	110.7	136.9	160.2	1342.9
PARADISE													
Snowfall (cm)	58.7	48.7	40.1	10.1	1.3	0.0	0.0	0.0	0.0	1.7	10.6	53.1	224.3
Total Precip. (mm)	132.9	99.0	93.8	84.0	84.1	75.7	85.0	91.1	91.8	106.9	124.8	138.1	1207.2

Source: Atmospheric Environment Service 1980.

Western Nova Scotia. The Western Nova Scotia climatic region has higher rainfall and warmer temperatures than the Eastern Nova Scotia region. No representative weather stations are located within this climatic region.

The crop type and variety that can be grown are dependent on the frost free period and growing degree days or heat units. Growing degree days are based on the threshold temperature below which plants do not grow. For perennial plant growth, a threshold temperature of 5°C is most valid, while for tender, heat-loving plants, such as tomatoes and beans, a base

temperature of 10^0C is more appropriate (Dzikowski 1984). The frost free period for the survey area is usually greater than 110 days. The growing degree days over 5^0C range from 1700-1850 and over 10^0C range from 800-950.

A general summary of climatic data for the survey area is shown in Table 2.

Table 2. Weather data summary

Total precipitation:	1090 to 1350 mm
May to Sept. precipitation:	390 to 460 mm
Degree days over 5^0C:	1700 to 1850
Degree days over 10^0C:	800 to 950
Growing season:	200 to 210 days
Start of growing season:	April 15 to 20
End of growing season:	November 1 to 6
Last spring frost:	May 15
First fall frost:	September 30
Average frost free period:	more than 110 days
Corn heat units:	2100 to 2500
Maximum Jan. temperature:	0 to -6 degrees C
Jan. extreme minimum:	-22 to -31 degrees C
Mean July temperature:	18 to 19 degrees C
July extreme maximum:	30 to 35 degrees C
Frost free period:	110 to 140 days

Source: Dzikowski 1984.

Vegetation and land use

In A forest classification for the Maritime Provinces Loucks (1961) classified the vegetation of the region into forest zones, ecoregions and districts. Forest zones are defined by the predominant tree species, ecoregions by similar ecological relationships between site and species and districts by physical patterns of relief, predominant soil texture, bedrock type and drainage patterns.

The survey area is part of two forest zones. The North Mountain physiographic region is located within the Spruce-Fir Coast Zone and the Annapolis Valley and Southern Upland regions are located in the Red Spruce-Hemlock-Pine Zone (Fig. 5).

Characteristic tree species of the Spruce-Fir Coast Zone are red spruce and balsam fir. The absence of hemlock and white pine are characteristic of this zone. Common hardwoods of the zone are red maple and white birch. Characteristic tree species of the Red Spruce-Hemlock-Pine Zone are red spruce, white pine and hemlock. Red oak and red maple are common hardwood species.

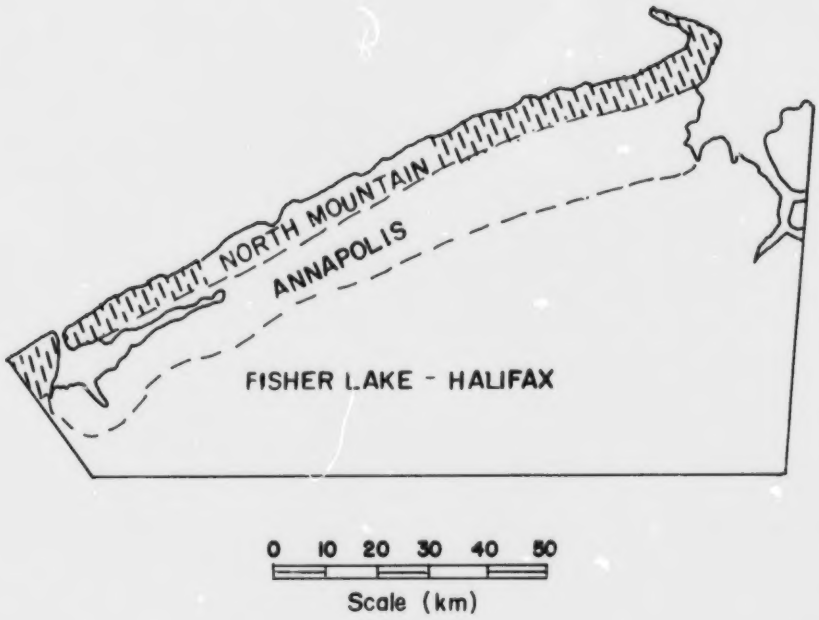


Fig. 5. Forest Zones, Ecoregions and Districts (Loucks 1961).

Within the survey area, the forest zones are subdivided into ecoregions (Fig. 5). North Mountain is located in the Fundy Bay Ecoregion and the valley floor and South Mountain areas are located in the Clyde River - Halifax Ecoregion. The ecoregions are further divided into districts.

Fundy Bay Ecoregion. The portion of survey area in the Fundy Bay Ecoregion (Fig. 5) is located in the North Mountain District (Loucks, 1961). Soils of the district are often shallow and seepage sites are common. White spruce, red spruce and

balsam fir are common species of the district. Mountain ash is common but somewhat stunted on the upper slopes due to exposure to weather conditions and to shallow rooting depths over bedrock. Sugar maple and beech may also occur at higher elevations sheltered from the Bay of Fundy. Some common understorey species that are characteristic of the district are foxberry, cloudberry and wild raspberry. The shallow soils and cold winds from the Bay of Fundy appear to be the most important deterrent to rapid tree growth in the district.

Clyde River-Halifax Ecoregion. The Clyde River-Halifax Ecoregion is divided into two districts (Fig. 5). The Annapolis District is located on the valley floor and the Fisher Lake-Halifax district covers South Mountain.

The Annapolis District is characterized by stands of sugar maple, beech, red spruce and hemlock. Sandy soils of the valley floor support stands of red pine, white pine and red oak.

In the Fisher Lake-Halifax District, white pine, red spruce and hemlock are common species in areas that have not been burned. Areas of regrowth are abundant and consist of red oak, red maple and white birch mixed with white pine and black spruce. Where soil drainage is poor, balsam fir and black spruce are prominent.

Understorey species of the Annapolis and Fisher Lake-Halifax Districts are similar. Any barrens created by fire are covered mainly by sheep laurel, blueberry, bearberry, witherod and black huckleberry. Characteristic species of both districts include highbush blueberry, inkberry and greenbrier while witch-hazel is abundant in red oak stands.

Common and scientific names of the plant species mentioned in this report are listed in Appendix 1.

About one quarter of the entire land area of the Annapolis Valley (including North and South Mountains) region is used for agricultural production (Statistics Canada 1981). The main agricultural enterprises are fruit, vegetable, cattle and dairy farms. Although the Annapolis Valley is considered an intensive agricultural region about 60% of the area is covered by productive forest (Canada Department of Forestry 1968). The region can be divided into three distinct land use areas: North Mountain, valley (including the south facing slopes of North Mountain and the north facing slopes of South Mountain) and South Mountain.

The valley area is used mostly for agriculture with about 80% of the area farmed (Department of Municipal Affairs 1979, 1985). The valley is noted for the production of fruits,

vegetables and cereal grains. Orchards are located at the toe of the North Mountain escarpment and the north facing slopes of South Mountain (Department of Municipal Affairs 1979, 1985).

About 20% of the South Mountain is used for agriculture with the remainder productive woodland. Abandoned farmland is scattered throughout the area. The main agricultural crop is pasture with some areas used for forage production. The gravelly soils and the rippable bedrock are frequently used as a source of aggregate.

Most of North Mountain is productive woodland with about 25% of the area used for agriculture. Forage, cereal grain and pasture are the main crops with a small acreage devoted to potatoes, peas and beans. Cleared land on North Mountain is stonier than land found in the valley. Stoniness combined with cooler temperatures makes agricultural production on North Mountain difficult and limits the range of specialized crops grown.

PART 2. SURVEY METHODS

Preparing soil maps involves field inventory, laboratory analysis and office work. Office work consists mainly of pretyping the aerial photographs and selecting observation and sample sites, compiling data collected in the field and laboratory, digitizing the soil maps and preparing the final report. Office work was generally done from December to May.

Field inventory involves examining sites, collecting information on soils and sites, finalizing soil boundaries and collecting soil samples. Inventory was conducted from May to December. Field inventory and laboratory analysis are discussed under Mapping Methods and Laboratory Methods, respectively.

Every soil exhibits a range of attribute values so map unit boundaries are best estimates rather than absolute truths. Virtually all map polygons contain unidentified soils because of map scale limitations. These inclusions are often of low contrast (ie. their interpretation for most uses is similar to the rest of the unit) but sometimes this is not the case. For this reason, soil maps do not replace on site investigation for questions about individual parcels of land. In addition, soil information presented here applies only to the surface 100 cm. For information on the material below 100 cm the reader will have to refer to other sources.

Mapping methods

Map unit delineations were sketched on aerial photographs using photograph interpretation techniques and previously published soil and contour maps. During this pretyping procedure reconnaissance transects were located. A reconnaissance transect consisted of five or ten observation sites equally spaced in a straight line. Transects were placed perpendicular to the landform and were uniformly distributed over the mapping area.

At each observation site, the soil material was examined to a depth of 100 cm or to bedrock. Up to four horizons were described according to guidelines outlined in The manual for describing soils in the field (Day 1982). Field data was recorded on data sheets.

After completion of the reconnaissance transects sites, observation sites called "free checks" were placed in map units not previously examined. Free checks and reconnaissance transect sites were used to complete the soil map. A soil legend supplied by the Scientific Authority (SA) was used to identify and name the soils described at each site. Based on the field sampling, map unit delineations were finalized and the map was submitted to the SA for correlation. Correlation consisted of checking map

lines against the landscape and conducting "spot checks" to verify the map units. Comments and suggested changes were returned to the surveyor. After changes were made and final approval was given by the SA, delineation transects were placed on the map sheet.

Using the correlated soil map, map unit delineations were selected for examination. A transect, consisting of 10 equally spaced observation sites, was located according to criteria outlined in Application of transect method to soil survey problems (Wang 1982). These transects called 'delineation transects' were used to test map unit variability. After the second field season, delineation transects were eliminated from the mapping procedure to provide additional sites for mapping.

The project covered parts of 55 orthophoto map sheets. Forty six of these map sheets consisted of 3 000 ha while 9 metric maps, located at the western end of the survey area, covered 4 320 ha. Surveyed areas of a map sheet had about 1 observation site per 12 ha.

The field mapping began in 1984 and was completed in 1987. Some modifications in the type and number of observation sites were made. These are briefly described below.

Fifteen map sheets were completed during 1984. Two map sheets were mapped using 5 reconnaissance transects with the remaining sites devoted to delineation transects. Thirteen maps used 10 reconnaissance transects and 50 free checks were used for mapping. The remaining sites were devoted to delineation transects.

Fifteen maps were completed during 1985. Fifteen to 25 reconnaissance transects consisting of 150 observation sites were located uniformly over a full map sheet. In addition, 50 free check sites were examined to complete the soil map. The remaining sites were devoted to delineation transects.

In 1986 and 1987, the remaining 25 maps were completed. Fifteen to 25 reconnaissance transects consisting of 180 sites were located uniformly over a full map sheet. These transects and 50 free checks were used to complete the soil map. An additional 25 free checks were selected by the SA for examination after correlation.

Sampling and laboratory methods

Two types of sites were sampled, phase 1 and phase 2. Phase 1 sites were sampled during field mapping and were used to verify the field estimates of particle size. About 5% of the total observation sites were sampled by the surveyor. The sites represented soils found on the map sheet. Samples were taken of the major soil horizons at some sites while at others only the lower soil material or C horizon was sampled. Samples were analysed for pH and particle size.

Phase 2 sample sites were selected by the SA during correlation. They represented the central concept of a specific soil type. Samples were analysed for pH, particle size distribution and organic matter content. In addition, about half the sites were core sampled. Sites selected for core sampling contained small amounts of gravel. Core samples were analysed for bulk density, hydraulic conductivity and water holding capacity.

Maritime Testing laboratory staff analyzed phase 1 samples for pH and particle size. Phase 2 samples were analyzed for pH, particle size, organic matter content, cation exchange capacity, bulk density, hydraulic conductivity, and water retention. Procedures followed McKeague (1978) for all tests except particle size where the sand was determined by sieving and the clay by hydrometer. Table 3 shows the type of analysis, number of samples and laboratory method used.

To ensure reliability of the particle size results, a set of standard samples was run with every batch of field samples. Results were compared with known values and the sample batch was rerun if significant differences were found.

To ensure reproducibility, a checking system was developed. Batches of 100-150 samples together with the results were submitted to the SA who resubmitted 10 randomly selected samples. The entire batch was accepted if the re-analysis showed that:

90% of the total sand fraction values were reproduced to within 4 percentage points of the original, and

90% of the total clay fraction values were reproduced to within 3 percentage points of the original.

Otherwise the batch was rerun.

Table 3. Analytical methods

Number of samples	Analysis	Method[1]
1984	pH	$CaCL_2$
1984	pH	Water
362 (A & B horizons)	organic matter	modified Walkley-Black
45	CEC (Ca, Mg, K, Al)	NaCL extraction
1983	particle size	Hydrometer[2]
1540	bulk density	Core
1540	hydraulic conductivity	Core
616	water holding capacity	Tension table and pressure plate[3]

[1] described in McKeague 1978.

[2] modified from McKeague 1978 as previously described

[3] four points, on the desorption curve were done for each sample (5, 10, 33 and 1500 kPa)

Cartographic methods

Maritime testing staff used the Collins and Moon Geographical Information System to digitize maps that had been approved by the SA. Digitized maps were plotted at the Technical University of Nova Scotia (TUNS) and edited internally. After editing, the maps were submitted to the Land Resource Research Centre (LRRC) in Ottawa where minor errors were corrected. Maps requiring major changes were returned to Maritime Testing for correction. Maps were then submitted to the SA for final editing. Upon completion, the maps were compiled by the Cartographic Section of LRRC for publication.

Site data analysis

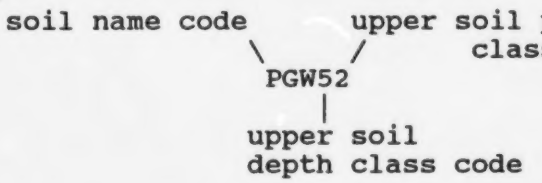
Maritime Testing Ltd. staff supplied all data on floppy diskette and paper. Detailed descriptions of individual sites are kept on open file at LRRC, Truro. A summary of the information is found in this report. Summary data are grouped on three major soil horizons:

A includes Ap, Ah and Ae horizons
B includes all B horizons except compact BC horizons
C includes all C horizons and compact BC horizons

The range of soil characteristics is determined by the upper and lower limits of the soil. Where soils were not sampled fields are left blank.

Soil and map unit naming conventions

Soils are coded as a three letter code and in most cases are followed by a two digit modifier. The three letter code represents the soil name which describes the particle size of the lower soil material, mode of deposition and soil drainage. The first digit in the modifier describes the depth of the upper soil material while the second digit describes the particle size of the upper soil material. Modifiers are not used for land types, alluvial or marine soils. An example of a soil symbol is shown below:

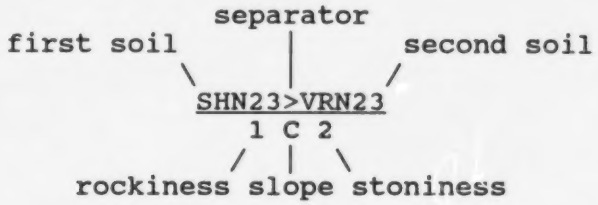


The codes for the two digit modifier are as follows:

Code	Depth class (cm)
2	20-50
5	50-80
8	>80
X	cemented layer present

Code	Particle size class
0	Fine loamy
1	Fine loamy-gravelly
2	Coarse loamy
3	Coarse loamy-gravelly
4	Fine sandy
5	Sandy
6	Sandy-gravelly
7	Loamy-skeletal
8	Sandy-skeletal
9	Fragmental
P	Peat

The soil symbol code is a component of a map unit symbol. A map unit symbol similar to the one shown below is located within each polygon on the soils map.



A maximum of two soils are coded in the numerator. A single soil code is used for simple map units where one soil occupies over 80% of the area. In compound map units, where two soil symbols are used, the separator '=' shows that each soil occupies about 50% of the area, the separator '>' shows that the first soil occupies about 70% of the area and the second soil about 30%. Soil symbols are listed in alphabetical order if the separator is '='.

The class limits for the landscape attributes: rockiness, slope and stoniness are shown below. Landscape attributes are not included for land types.

Rockiness classes

Code	Definition
	Nonrocky
1	Slightly rocky

Slope classes

Code	Definition
B	0 to 2.0%
C	2.0 to 5%
D	5 to 9%
E	9 to 15%
F	15 to 30%

Stoniness classes

Code	Definition
	Nonstony or slightly stony
2	Moderately stony

Stoniness classes are defined in terms of the amount of surface stones greater than 25 cm in diameter (or greater than 38 cm if flat), and their spacing. Classes 0 and 1 (nonstony and slightly stony) are coded blank on the soil map.

The slope class of a map unit refers to the slope range which best describes the general steepness of slope.

Rockiness refers to bedrock outcrops. Classes are defined in terms of the amount of surface covered by bedrock and the distance between bedrock exposures. Class 0 (nonrocky) appears as a blank on the soil maps.

Soil correlation and key

The soils in this project have been correlated with previous soil survey reports in the area (Table 4). To find more information on Bridgeville soils, for example, refer to the Cumberland Catena in the Hants County report but to the Bridgeville Series in the Kings and Annapolis County reports.

Table 4. Correlation of soil names with other soil surveys

This survey	Hants[1]	Digby[2]	Kings[3]	Annapolis[4]	Research Stn.[5]
Acadia	Acadia	--------	Acadia	Acadia	Acadia Chegoggin
Bridgeville	Cumberland	--------	Bridgeville	Bridgeville	--------
Canaan	Gibraltar Halifax Rawdon	Aspotogan Middlewood Tiddville	Aspotogan Mahone Middlewood Tiddville	Aspotogan Middlewood Tiddville	--------
Chaswood	Cumberland	--------	Chaswood	Chaswood	Chaswood
Comeau	Hebert Torbrook	Comeau	--------	--------	--------
Cornwallis	Cornwallis	--------	Canning Cornwallis Nictaux Somerset	Canning Cornwallis Nictaux	Cornwallis Somerset
Cumberland	Cumberland	--------	Cumberland	Cumberland	--------
Debert	Cornwallis Hansford Pugwash Rawdon Truro	Annapolis Danesville Deerfield Liverpool Riverport	Annapolis Avonport Debert	Annapolis Debert Kentville Riverport	Kentville
Dufferin	Peat Swamp	Sedge Peat Sphagnum Peat	Peat	Peat	--------
Economy	Gibraltar Halifax Rawdon	Aspotogan Middlewood Tiddville	Aspotogan Middlewood	Aspotogan Middlewood Tiddville	--------
Factorydale	Halifax Gibraltar	Bayswater Roxville	Bayswater Danesville Riverport Roxville	Bayswater Danesville Roxville	--------

(continued)

Table 4. Correlation of soil names with other soil surveys (continued)

This Survey	Hants[1]	Digby[2]	Kings[3]	Annapolis[4]	Research Stn.[5]
Falmouth	Elmsdale Hansford Hantsport	Bridgewater Wolfville	Middleton Pelton Wolfville	Middleton Wolfville	--------
Fash	--------	--------	Fash	Fash	--------
Glenholme	--------	--------	--------	Millar	--------
Hansford	Gibraltar Halifax Rawdon	Bridgewater Halifax Gibraltar Rossway	Berwick Gibraltar Halifax Morristown Rawdon Rossway	Bridgetown Halifax Bridgewater Glenmont Gibraltar Morristown Rossway	Berwick
Hantsport	Elmsdale Hansford Hantsport	Riverport	Hantsport Riverport	--------	--------
Hebert	Hebert Torbrook	Digby Medway	Gulliver Nictaux Torbrook	Gulliver Nictaux Torbrook	Torbrook
Kingsport	Cornwallis	--------	Avonport Kingsport	Avonport Kingsport	Kingsport
Kingsville	Elmsdale Hansford Hantsport Queens	Mahone Middlewood	Mahone	Kingsville	--------
Lawrencetown	--------	--------	Lawrencetown	Lawrencetown	--------
Mahone	Elmsdale Hansford Hantsport	Middlewood	Mahone Middlewood	--------	--------
Masstown	Cornwallis Hansford Pugwash Rawdon Truro	Aspotogan Middlewood Pitman Seely	Masstown	Middlewood	--------
Meteghan	Hebert Torbrook	Meteghan	--------	--------	--------
Millar	Cornwallis	--------	Millar	Millar	Millar
Morristown	Halifax Gibraltar	Gibraltar Rossway	Halifax Gibraltar Morristown Rawdon Rossway	Bridgetown Gibraltar Halifax Morristown Rossway	--------
Newtonville	Halifax Gibraltar	Aspotogan Tiddville	Aspotogan Middlewood Tiddville	Aspotogan Tiddville	--------
Onslow	--------	--------	Avonport	Avonport Kingsport	Kingsport

(continued)

Table 4. Correlation of soil names with other soil surveys (continued)

This Survey	Hants[1]	Digby[2]	Kings[3]	Annapolis[4]	Research Stn.[5]
Pugwash	Cornwallis Hansford Pugwash Rawdon Truro	Bridgewater Halifax Kentville Mersy Yarmouth	Berwick Bridgetown Glenmont Kentville Pelton Somerset Woodville	Berwick Bridgewater Glenmont	Berwick Woodville
Queens	Elmsdale Hansford Hantsport Queens	Hantsport Riverport	--------	Hantsport Kentville	--------
South Alton	Gibraltar Halifax Rawdon	Bridgewater Rossway	Bridgetown Morristown Rawdon Rossway	Bridgetown Gibraltar Morristown Rossway Wolfville	--------
Springhill	Gibraltar Halifax Rawdon	Bayswater Danesville Riverport Roxville	Bayswater Danesville Debert Hantsport Riverport Roxville	Annapolis Bayswater Danesville Riverport Roxville	--------
Stewiacke	Stewiacke	--------	Stewiacke	--------	--------
Truro	Truro	--------	Canning	Canning	Canning
Vernon Mines	Gibraltar Halifax Rawdon	Danesville Liverpool Riverport Roxville	Hantsport Riverport Roxville	Annapolis Bayswater Hantsport Riverport Roxville	--------
Woodbourne	Elmsdale Hansford Hantsport	Bridgewater	Morristown Rawdon	--------	--------

[1] Cann et al. 1954.
[2] Hilchey et al. 1962.
[3] Cann et al. 1965.
[4] MacDougall et al. 1969.
[5] Langille 1987.

Soil names are different because of differing naming conventions. In this report, there is a new name whenever there is a change in lower soil material particle size, in mode of deposition, or in drainage. In some reports there is no new name for a change in drainage.

Other names are different because the method of grouping soils is different. For example, Hansford soils in this report have 20-35% gravel of any kind in their lower soil material. In previous reports, the gravel had to be of a certain type or a new name was required.

Soils in this report were keyed according to mode of deposition, particle size of the lower soil material and drainage (Table 5). All soils in the key have not been described in this report. Some soils were not found as mappable soil delineations and were grouped with an associated map unit. These soils are known as inclusions. For example, Avonport soils occur, but not as mappable units. Avonport soils have been included with the Truro map units and are referred to as an inclusion in Truro map units.

Table 5. Soil key

Soils Developed on Glacial Till Deposits		
Fine loamy lower soil material		
Moderately well drained	Falmouth	FUH
Imperfectly drained	Queens	QUE
Poorly drained	Kingsville	KSV
Fine loamy-gravelly lower soil material		
Moderately well drained	Woodbourne	WOB
Imperfectly drained	Hantsport	HTP
Poorly drained	Mahone	MHO
Coarse loamy lower soil material		
Well to moderately well drained	Pugwash	PGW
Imperfectly drained	Debert	DRT
Poorly drained	Masstown	MSW
Coarse loamy-gravelly lower soil material		
Well to moderately well drained	Hansford	HFD
Imperfectly drained	Springhill	SGL
Poorly drained	Economy	ECY
Loamy-skeletal lower soil material		
Well drained	Morristown	MRW
Imperfectly drained	Factorydale	FAC
Poorly drained	Newtonville	NTV

(continued)

Table 5. Soil key (continued)

Coarse loamy to loamy-skeletal veneer over bedrock		
Well drained	South Alton	SHN
Imperfectly drained	Vernon Mines	VRN
Poorly drained	Canaan	CAA
Soils Developed on Glaciofluvial Deposits		
Fine sandy lower soil material		
Well drained	Truro	TUO
Imperfectly drained	Onslow	OSW
Poorly drained	Glenholme	GNH
Sandy lower soil material		
Rapidly drained	Cornwallis	CNW
Imperfectly drained	Kingsport	KGP
Poorly drained	Millar	MLL
Sandy-gravelly to sandy-skeletal lower soil material		
Rapidly to well drained	Hebert	HBT
Imperfectly drained	Comeau	CMU
Poorly drained	Meteghan	MGA
Soils Developed on Alluvial Deposits		
Top 80 cm dominantly fine loamy		
Imperfectly drained	Cherryfield	CYF
Poorly drained	Stewiacke	STW
Top 80 cm dominantly coarse loamy to sandy-gravelly		
Well drained	Cumberland	CBR
Imperfectly drained	Bridgeville	BGE
Poorly drained	Chaswood	CHW
Soils Developed on Lacustrine Deposits		
Fine loamy lower soil material		
Well to moderately well drained	Avonport	AVP
Imperfectly drained	Fash	FSH
Poorly drained	Lawrencetown	LWR

(continued)

Table 5. Soil key (continued)

Soils Developed on Organic Deposits		
Very poorly drained forested swamp	Dufferin	DFN
Very poorly drained bog	Castley	CSY
Very poorly drained fen	Rossignol	RGO
Soils Developed on Dyked Marine Sediments		
Top 80 cm dominantly coarse loamy	Grand Pre	GPR
Top 80 cm dominantly fine loamy	Acadia	ACA
Top 80 cms dominantly fine loamy with lenses of peat	Chegoggin	CGN

Miscellaneous Land Types

Coastal beach	ZCB
Escarpment	ZES
Gravel pit	ZGP
Gully	ZGY
Not surveyed	ZNS
Salt marsh	ZSM
Urban land	ZUL
Water	ZZZ

PART 3. SOIL AND MAP UNIT DESCRIPTIONS

The description of soils and map units that follow provide more detail than in the map legend. The map legend outlines the "modal" concept (i.e. narrow range of soil commonly associated with a given soil type). In this section the full range of soil and land properties are described including variations in the soil properties and inclusions encountered by the surveyor in specific areas of the survey. These inclusions are minor in extent and were grouped with the closest associated soil.

For compound map units, the landscape relationships of the individual soils are described in the Compound Map Units section for the first soil in the map unit. The soil symbols will be listed as a compound map unit for the second soil but will be marked with a '*' indicating that the reader should go to the first soil for the description of the soils in the map unit. For example:

SGL22>ECY23

will be described in the Springhill 22 soil description under Compound Map Units. It will also be listed under Compound Map Units for the Economy 23 soils but will be marked with a '*' indicating that the reader should refer to the Springhill 22 soil map unit descriptions.

ACADIA SOILS (ACA)

Soil material and landform

Soil material	: Fine loamy marine
Slope (range; mean)	: 0.5 to 3.0%; 1.0%
Drainage (range; mean)	: Imperfect to poor; imperfect
Stoniness	: Nonstony
Rockiness	: Nonrocky

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	10-51	27	252
Particle size				
sand %	:	4-19	13	5
dominant sand size		Very fine		
silt %	:	51-60	56	5
clay %	:	26-36	31	5
Hydraulic conductivity (cm/h)	:	0.1-10.8	1.4	10
Bulk density (g/cm^3)	:	1.2-1.5	1.4	10
Organic carbon (%)	:	0.6-2.2	1.4	2
pH water	:	5.3-6.4	5.9	5
pH $CaCl_2$	:	4.6-5.9	5.2	5
Consistence	:	Friable to firm		

C horizon		Range	Mean	Number
Particle size				
sand %	:	4-27	11	10
dominant sand size		Very fine		
silt %	:	45-69	57	10
clay %	:	13-50	32	10
Hydraulic conductivity (cm/h)	:	0.0-29.3	1.9	20
Bulk density (g/cm^3)	:	0.8-1.5	1.1	20
Organic carbon (%)	:	0.7-2.8	1.7	2
pH water	:	4.4-6.2	5.1	10
pH $CaCl_2$	:	3.6-5.8	4.5	10
Consistence	:	Friable to firm		

ACA map units

Acadia map units are located along the Annapolis River at the western end of the survey area and on map sheets adjacent to the Minas Basin. Map sheets where Acadia map units are found are: Avondale, Centre Burlington, Bishopville, Melanson, Hantsport, Grand Pre, Avonport Station, North Grand Pre, Kentville, Kingsport, Pereau, Paradise, West Paradise, Bridgetown, Centrelea, Tupper Brook, Granville Centre, Lequille, Annapolis Royal and Granville Centre (Fig. 1).

Acadia map units, originally Salt Marsh, have been dyked and drained and in recent years land formed. They are, therefore, dependent on management for their present and future drainage. When managed properly, Acadia soils are imperfectly drained but when abandoned, they revert to poor or in some cases very poor drainage.

Acadia map units have few inclusions. However, where they border upland map units, small areas of upland soils may be found. Other inclusions are the Grand Pre soil, the coarse loamy associate of the Acadia soil, and the Chegoggin soil, the stratified peaty associate of the Acadia soil. Grand Pre soils may be found in Acadia map units located adjacent to glaciofluvial map units while Chegoggin soils may be found in depressions within Acadia map units.

BRIDGEVILLE SOILS (BGE)

Soil material and landform

Soil material	: Coarse loamy to sandy-gravelly alluvium
Slope (range; mean)	: 0.5 to 3.0%; 1.5%
Drainage	: Imperfect
Stoniness	: Nonstony
Rockiness	: Nonrocky

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	10-70	25	73
Particle size				
sand %	:	30-66	48	2
dominant sand size		Fine		
silt %	:	25-46	36	2
clay %	:	9-24	16	2
Organic carbon (%)	:	-----	3.0	1
pH water	:	5.3-5.4	5.3	2
pH $CaCl_2$	:	4.5-4.7	4.6	2
Consistence	:	Friable to very friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	13-93	53	7
dominant sand size		Very fine		
silt %	:	3-54	32	7
clay %	:	4-33	15	7
Hydraulic conductivity (cm/h)	:	0.2-59.7	10.1	10
Bulk density (g/cm^3)	:	1.2-1.4	1.3	10
pH water	:	4.9-5.7	5.4	7
pH $CaCl_2$	:	4.2-4.8	4.5	7
Consistence	:	Friable		

Compound map units

BGE =CHW BGE =CBR

BGE =CHW: Chaswood (CHW) soils are generally located in the low lying areas and depressions of the map unit. Bridgeville soils tend to be found on the higher positions of the map unit. The Bridgeville-Chaswood map units are found on the floodplains of rivers and streams which flood frequently. Map units are not usually found in the area west of Lawrencetown but are common on the valley floor east of Lawrencetown. Map units are also found on the slopes of North and South Mountain.

BGE =CBR: Cumberland (CBR) soils are found on the upper slopes and crests of the map unit. Bridgeville soils are found in the low areas and depressions of the map unit. The BGE =CBR map units are found on floodplains which flood infrequently and which pass through areas of glaciofluvial sands and gravels. Map units are common on map sheets west of Kingston.

BGE map units

Bridgeville map units are found on the valley floor on map sheets located east of the Bridgetown map sheet (Fig. 1). They are located on the floodplains which pass through coarse loamy till and glaciofluvial map units.

Bridgeville soils have little profile development and are usually stratified. Individual layers are well sorted and particle size ranges from sand to fine loamy. This layering causes slow internal drainage.

Inclusions found in Bridgeville map units are Hebert and Cornwallis soils. Pockets of these soils can be found in sections of the Bridgeville map units which do not flood.

CANAAN 23 SOILS (CAA23)

Lower soil material and landform

Lower soil material	: Coarse loamy to loamy-skeletal till veneer over bedrock
Slope (range; mean)	: 1.0 to 6.0%; 3.0%
Drainage	: Poor
Stoniness (range; mean)	: Nonstony to very stony; moderately stony
Rockiness (range; mean)	: Nonrocky to very rocky; slightly rocky
Depth to constricting layer (range; mean)	: 18 to 50 cm; 45 cm
Kind of constricting layer	: Bedrock

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	12-36	22	24
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	5-55	20	24
Consistence	:	Friable		

C horizon		
Consistence	:	Friable

Compound map units

CAA23=VRN23

CAA23=VRN23: Vernon Mines (VRN) soils are usually found on the upper slopes or crests of the map unit while the Canaan soils are located on the lower slopes or in the depressions. In some cases, the Canaan soils are located in drainage channels within the map unit. Here they are extremely wet and sometimes flooded. The Canaan-Vernon Mines map units are only found on map sheets located on South and North Mountains in Kings County.

CAA23 map units

Canaan map units have been mapped on North and South Mountains in Kings County and at the eastern end of Annapolis County. Canaan map units are located on the Grand Pre, Canaan, Pereau, Woodworth Creek, South Alton, West Glenmont, Dempsey Corner, Nicholsville and Nictaux Falls map sheets (Fig. 1).

Canaan soils found on South Mountain generally are shallower and contain more gravel than on North Mountain.

Canaan 23 map units may have inclusions of Canaan 53, 27 and 57 soils. Other small inclusions may be poorly drained, coarse loamy-gravelly till.

CUMBERLAND SOILS (CBR)

Soil material and landform

Soil material	: Coarse loamy alluvium
Slope (range; mean)	: 0.5 to 3.0%; 1.0%
Drainage (range; mean)	: Moderately well to well; well
Stoniness (range)	: Nonstony
Rockiness (range)	: Nonrocky

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	18-85	30	27
Consistence	:	Friable to very friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	71-89	79	3
dominant sand size			Very coarse	
silt %	:	8-21	15	3
clay %	:	3-8	6	3
pH water	:	5.4-5.8	5.5	3
pH $CaCl_2$	:	4.5-5.0	4.7	3
Consistence	:	Friable		

Compound map units

BGE =CBR *

CBR map units

Cumberland map units are located along the Annapolis river from Lawrencetown to Kingston in areas where the river dissects Cornwallis, Hebert, Pugwash and Hansford map units. Although located on floodplains, Cumberland soils do not flood as frequently as Bridgeville and Chaswood soils.

Cumberland soils are stratified and well sorted. Lenses of fine loamy alluvial material may occur in Cumberland profiles.

Cumberland map units may have inclusions of fine loamy alluvial soils when adjacent to fine loamy soils. Coarse loamy-gravelly till and sandy-gravelly glaciofluvial inclusions are possible where Cumberland map units are found adjacent to Hansford and Hebert map units, respectively.

CHASWOOD SOILS (CHW)

Soil material and landform

Soil material	: Coarse loamy to sandy-gravelly alluvium
Slope (range; mean)	: 0.5 to 3.0%; 1.0%
Drainage	: Poor
Stoniness	: Nonstony
Rockiness	: Nonrocky

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	5-48	21	79
Consistence	:	Friable to very friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	-----	79	1
dominant sand size			Fine	
silt %	:	-----	13	1
clay %	:	-----	8	1
pH water	:	-----	4.9	1
pH $CaCl_2$	:	-----	4.1	1
Consistence	:	Friable to loose		

Compound map units

BGE =CHW *

CHW map units

Chaswood map units are located throughout the survey area. They are extensions of Gully map units along the base of the North and South Mountains. They are also found on poorly drained floodplains and in drainage channels in areas where the dominant soils are coarse loamy or sandy. The following is a list of the map sheets with Chaswood map units: Prospect, Centre Burlington, Bishopville, Melanson, Hantsport, Grand Pre, Avonport Station, Kentville, Kingsport, Woodside, Pereau, Centreville, North Kingston, Forest Glade, Kingston, Lawrencetown E, Brooklyn, Nictaux Falls, Middleton, Douglas Road, Victoria Vale, Paradise, Lawrencetown W, Bridgetown, Paradise, Tupper Brook, Centrelea, Granville Centre, Lequille, Granville Ferry, Annapolis Royal and Deep Brook (Fig. 1).

Chaswood soils have little profile development and are usually stratified. The individual layers are well sorted and may include organic to fine loamy layers.

Drainage channels mapped as Chaswood map units include the steep sides of the channels. In some locations, Chaswood map units may also have inclusions of organic soils or poorly drained soils of the adjacent till map unit.

COMEAU 53 SOILS (CMU53)

Lower soil material and landform

Lower soil material	: Sandy-gravelly to sandy-skeletal glaciofluvial
Slope (range; mean)	: 0.5 to 18.0%; 3.0%
Drainage	: Imperfect
Stoniness (range; mean)	: Nonstony to moderately stony; nonstony
Rockiness	: Nonrocky
Depth to contrasting layer (range; mean)	: 52 to 80 cm; 64 cm
Kind of contrasting layer	: Variation in particle size

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	17-36	24	27
Particle size				
sand %	:	51-74	67	5
dominant sand size		Fine		
silt %	:	21-40	27	5
clay %	:	4-9	6	5
Organic carbon (%)	:	2.1-2.5	2.3	2
pH water	:	4.2-5.7	5.0	5
pH $CaCl_2$	:	3.9-4.9	4.3	5
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	19-48	31	27
Particle size				
sand %	:	67-94	80	6
dominant sand size		Very fine		
silt %	:	4-29	16	6
clay %	:	2-5	4	6
Organic carbon (%)	:	0.7-2.0	1.4	2
pH water	:	5.0-5.8	5.5	6
pH $CaCl_2$	:	4.4-5.5	4.9	6

Consistence	: Friable		
C horizon	**Range**	**Mean**	**Number**
Particle size			
sand %	: 75-98	90	7
dominant sand size		Very coarse	
silt %	: 0-22	7	7
clay %	: 2-5	3	7
pH water	: 5.2-6.7	5.7	7
pH $CaCl_2$	: 4.2-6.3	4.8	7
Consistence	: Loose		

Compound map units

HBT53>CMU53 *

CMU53 map units

With the exception of the South Scots Bay map sheet, Comeau 53 map units are found on the valley floor bordering South Mountain.

Comeau 53 map units have inclusions of CMU23, CMU52 and CMU86 soils. When associated with HBT86 or HBT23 soils, the upper soil material tends to be shallower and has a coarser particle size. Here inclusions of CMU23 and CMU86 soils are found.

On the Melanson map sheet, an area of CMU52 soil was found. Since this was the only area, it was included with the CMU53 map units.

Comeau soils in the South Scots Bay area contain pea size gravel in the lower soil material. This is in contrast to Comeau soils along South Mountain where the lower soil material contains gravel of various size and shape.

In some areas, especially the Middleton area, Chaswood soils are found as a drainage channels within Comeau map units.

CORNWALLIS 85 SOILS (CNW85)

Lower soil material and landform

Lower soil material	: Sandy glaciofluvial
Slope (range; mean)	: 0.5 to 15.0%; 3.0%
Drainage (range; mean)	: Well to rapid; rapid
Stoniness	: Nonstony
Rockiness	: Nonrocky

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	12-57	26	561
Particle size				
sand %	:	75-95	84	36
dominant sand size:		Fine		
silt %	:	1-21	11	36
clay %	:	1-9	5	36
Hydraulic conductivity (cm/h)	:	7.2-24.9	14.0	10
Bulk density (g/cm^3)	:	1.1-1.4	1.2	10
Organic carbon (%)	:	1.0-3.7	2.1	5
pH water	:	4.0-7.1	5.4	36
pH $CaCl_2$	:	3.0-6.6	4.6	36
Consistence	:	Loose		

B horizon		Range	Mean	Number
Thickness (cm)	:	6-75	33	561
Particle size				
sand %	:	72-97	90	38
dominant sand size:		Very coarse		
silt %	:	0-20	7	38
clay %	:	0-10	3	38
Hydraulic conductivity (cm/h)	:	8.2-23.0	14.1	5
Bulk density (g/cm^3)	:	1.2-1.3	1.3	5
Organic carbon (%)	:	0.3-1.1	0.6	5
pH water	:	4.4-6.9	5.4	38
pH $CaCl_2$	:	3.6-6.3	4.7	38
Consistence	:	Loose		

C horizon		Range	Mean	Number
Particle size				
sand %	:	67-99	91	57
dominant sand size:			Very coarse	
silt %	:	0-23	6	57
clay %	:	0-10	3	57
Hydraulic conductivity (cm/h)	:	5.2-9.3	7.6	5
Bulk density (g/cm^3)	:	1.4-1.5	1.4	5
pH water	:	4.5-7.4	5.5	58
pH $CaCl_2$	:	3.5-6.6	4.7	58
Consistence	:	Loose		

Features differentiating Cornwallis soils

CNW85: more than 80 cm of loose, sandy material.
CNWX5: cemented layer present within 80 cm.

Compound map units

CNW85=HBT86	CNW85>HBT86	HBT86>CNW85*
CNW85=KGP85	CNW85>KGP85	PGW52>CNW85*
CNW85=PGW52	CNW85>OSW84	TUO84>CNW85*
CNW85=PGW82	CNW85>PGW52	
CNW85>CNWX5	CNW85=TUO84	

CNW85-HBT86: Hebert (HBT) soils tend to be found on the lower slopes of the map unit while Cornwallis soils are found on the upper slopes or crests, especially in the area along South Mountain. The Cornwallis-Hebert map units are located mainly on map sheets west of Middleton. East of Middleton, map units occur along the base of North or South Mountain. This map unit includes the Nictaux soils as previously mapped in the Kings and Annapolis County soil survey reports.

CNW85-KGP85: Kingsport (KGP) soils are located in the low lying sections of the map unit while the Cornwallis soils are located on the upper slopes or crests. Cornwallis-Kingsport map units are located on the Prospect, Kentville, Kinsman Corner, Grafton and Centreville map sheets and on the valley floor on map sheets west of Kingston.

CNW85-PGW: Pugwash (PGW) soils occupy the level to low areas of the map unit while Cornwallis soils are located on the upper slopes or crests. Pugwash 82 soils tend to have a higher sand content when found in this map unit. On the Tupper Brook map sheet, Cornwallis soils in this map unit have a coarse loamy surface horizon. The Cornwallis-Pugwash map units are located on the valley floor throughout the survey area.

CNW85-TUO84: Truro (TUO) and Cornwallis soils are randomly mixed when mapped together. Where they appear to be wind deposited, the Truro soils occur on the lower slopes and the Cornwallis soils on the upper slopes. The majority of the map units occur on the valley floor in the Middleton area. They are also found on or near the Woodside, Kinsman Corner, Annapolis Royal and Granville Centre map sheets (Fig.1).

CNW85-OSW84: Onslow (OSW) soils are located on the lower slopes of the map unit and Cornwallis soils on the upper slopes. The Cornwallis-Onslow map units are located in the Middleton to Lawrencetown area. Other occurrences of the map unit are found on the Kinsman Corner, Vernon Mines, Bridgetown and Granville Centre map sheets.

CNW85-CNWX5: Cornwallis X5 (CNWX5) soils are randomly mixed with Cornwallis 85 soils. The map units are mainly located west of Kingston on the valley floor. Some map units are located on the Prospect, Pereau and Kinsman Corner map sheets.

CNW85 map units

Cornwallis 85 map units occur mainly on the valley floor throughout the survey area. Map units are more common on map sheets west of Kingston and around the Kingsport to Pereau area at the eastern end of the valley. A few Cornwallis 85 map units are found on South Mountain on the Prospect, Greenfield, Nicholsville and Harmony map sheets and on North Mountain on the South Scots Bay, Vernon Mines and Harbourville map sheets.

Cornwallis 85 soils may have lenses of fine sandy glaciofluvial material in areas adjacent to Truro soils. When found adjacent to Pugwash map units, Cornwallis 85 soils may have coarse loamy layers.

Cornwallis 85 map units include such minor soils as CNW22, CNW54 and TUO55. PGW55 soils are found as a map unit inclusion in the Tupper Brook and Annapolis Royal areas. CNW85 map units found in the Kingston to Lawrencetown area usually have inclusions of CNWX5 soils.

CORNWALLIS SOILS (CNWX5)

Lower soil material and landform

Lower soil material	: Sandy glaciofluvial
Slope (range; mean)	: 0.5 to 14.0%; 2.5%
Drainage (range; mean)	: Well to rapid; rapid
Stoniness	: Nonstony
Rockiness	: Nonrocky
Depth to constricting layer (range; mean)	: 30 to 85 cm; 36 cm
Kind of constricting layer	: Ortstein

Profile characteristics

A horizon	Range	Mean	Number
Thickness (cm)	13-55	30	99
Consistence	Loose to firm		

B horizon	Range	Mean	Number
Thickness (cm)	12-60	29	99
Consistence	Loose to firm		

C horizon	
Consistence	Loose to firm

Features differentiating Cornwallis soils

CNW85: more than 80 cm of loose, sandy material.
CNWX5: cemented layer present within 80 cm.

Compound map units

CNW85>CNWX5*
HBT23>CNWX5*
TUO84>CNWX5*
HBT86>CNWX5*

CNW X5 map units

Cornwallis X5 soils are mapped only as the subdominant soil of a map unit.

Cornwallis X5 soils contain fine sandy lenses when mapped with the Truro 84 soils. This is especially noticeable in the Grand Pre and Kinsman Corner areas. Lenses of sandy-gravelly soil are found in Cornwallis X5 soils located west of Middleton. Cornwallis X5 soils with coarse loamy surface horizons are found throughout the survey area.

DUFFERIN SOILS (DFN8P)

Soil material and landform

Soil material	: Mesic to humic forest peat
Slope (range; mean)	: 0.5 to 2.0%; 1.0%
Drainage	: Very poor
Stoniness	: Nonstony
Rockiness	: Nonrocky

DFN 8P map units

Dufferin map units are located throughout the survey area. Dufferin map units occur more frequently on map sheets west of Kingston (Fig.1).

Castley and Rossignol, two other organic soils, have been included in the Dufferin map units. Castley soils are found on bogs and Rossignol soils are found on fens. In addition, DFN5P soils have been included with DFN8P map units. Other inclusions include poorly drained till and alluvial soils.

DEBERT 22 SOILS (DRT22)

Lower soil material and landform

Lower soil material	: Coarse loamy till
Slope (range; mean)	: 0.5 to 9.0%; 3.0%
Drainage	: Imperfect
Stoniness (range; mean)	: Nonstony to slightly stony; nonstony
Rockiness	: Nonrocky
Depth to constricting layer (range; mean)	: 25 to 50 cm; 45 cm
Kind of constricting layer	: Compact till

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	10-29	21	111
Particle size				
sand %	:	22-71	54	19
dominant sand size		Very fine		
silt %	:	20-63	36	19
clay %	:	4-18	10	19
Hydraulic conductivity (cm/h)	:	0.0-13.0	2.1	40
Bulk density (g/cm^3)	:	1.0-1.6	1.2	40
Organic carbon (%)	:	1.4-4.2	2.8	7
pH water	:	4.5-7.2	5.4	20
pH $CaCl_2$	:	3.9-6.8	4.9	20
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	13-58	24	111
Particle size				
sand %	:	43-81	60	20
dominant sand size		Fine		
silt %	:	11-47	29	20
clay %	:	6-18	11	20
Hydraulic conductivity (cm/h)	:	0.0-10.5	0.9	35
Bulk density (g/cm^3)	:	1.2-1.7	1.5	35
Organic carbon (%)	:	0.3-1.2	0.7	7
pH water	:	4.5-6.5	5.6	21
pH $CaCl_2$	:	4.1-5.9	4.8	21
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	22-69	53	22
dominant sand size		Fine		
silt %	:	21-64	34	22
clay %	:	9-17.9	13	22
Hydraulic conductivity (cm/h)	:	0.0-2.7	0.3	40
Bulk density (g/cm^3)	:	1.6-2.2	1.8	40
pH water	:	4.5-7.1	5.7	23
pH $CaCl_2$	:	3.9-6.5	5.0	23
Consistence	:	Firm		

Features differentiating Debert soils

DRT22: 20 to 50 cm of friable coarse loamy soil over firm coarse loamy soil.
DRT52: 50 to 80 cm of friable coarse loamy soil over firm coarse loamy soil.
DRT82: greater than 80 cm of friable coarse loamy soil.

Compound map units

DRT22=PGW52	DRT22>MSW22
DRT22=QUE22	PGW52>DRT22*

DRT22=PGW52: Pugwash (PGW) soils are found on the upper slopes and crests of the map unit while Debert soils are found on the lower slopes or in depressions. Debert 22-Pugwash map units are located at the eastern end of the valley on map sheets from Bishopville to Kentville and north to Woodside. Map units also are found along the foot of the North Mountain

on the Woodworth Creek, White's Corner and Welsford map sheets and at the western end of the valley near the Lawrencetown and Centrelea map sheets (Fig.1).

DRT22-MSW22: Masstown (MSW) soils are found in depressions and in drainage channels while Debert soils are found on the upper slopes and crests. This map unit is not mapped extensively. It is located in the eastern end of the survey area on the Centre Burlington, Windsor, Kentville, Woodworth Creek and Grafton map sheets and more commonly in the western end of the survey area on the Paradise and Centrelea map sheets (Fig. 1).

DRT22-QUE22: Queens (QUE) and Debert soils are intermixed in the map unit. The Debert-Queens map units are located along the slopes of the North Mountain between Centreville and Vernon Mines and on the valley floor between Paradise and Granville Centre in the west.

DRT22 map units

Debert 22 map units are generally found on the valley floor. In the western end of the survey area, Debert 22 map units are found on map sheets from Paradise to Granville Centre and in the east on map sheets from Berwick to Centre Burlington.

When found adjacent to map units with fine loamy soils, Debert 22 soils tend to have a higher clay content than average. Debert 22 soils located along the base of North Mountain have a higher gravel and clay content than average while in the area from Pereau to Centreville at the eastern end of the survey area, Debert 22 soils contain pockets of sand.

The Debert 22 map units include minor inclusions of DRT20, DRT23 and DRT25 soils.

DEBERT 52 SOILS (DRT52)

Lower soil material and landform

Lower soil material	: Coarse loamy till
Slope (range; mean)	: 0.5 to 15.0%; 3.0%
Drainage	: Imperfect
Stoniness (range; mean)	: Nonstony to moderately stony; nonstony
Rockiness	: Nonrocky
Depth to constricting layer (range; mean)	: 50 to 89 cm; 58 cm
Kind of constricting layer	: Compact till

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	11-48	25	328
Particle size				
sand %	:	27-71	54	21
dominant sand size		Fine		
silt %	:	12-48	30	21
clay %	:	2-16	6	21
Hydraulic conductivity (cm/h)	:	0.0-6.0	3.5	40
Bulk density (g/cm^3)	:	0.8-1.5	1.3	40
Organic carbon (%)	:	0.6-5.9	2.3	10
pH water	:	4.1-8.2	5.2	21
pH $CaCl_2$	:	3.6-7.0	4.6	21
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	10-60	33	328
Particle size				
sand %	:	25-77	57	22
dominant sand size		Fine		
silt %	:	18-43	29	22
clay %	:	5-18	14	22
Hydraulic conductivity (cm/h)	:	0.0-4.0	2.0	45
Bulk density (g/cm^3)	:	1.1-1.7	1.5	45
Organic carbon (%)	:	0.1-2.3	1.1	10
pH water	:	4.4-6.6	5.4	22
pH $CaCl_2$	:	3.8-6.4	4.6	22
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	31-68	52	41
dominant sand size		Fine		
silt %	:	14-55	34	41
clay %	:	0-17.9	14	41
Hydraulic conductivity (cm/h)	:	0.0-2.1	1.4	50
Bulk density (g/cm^3)	:	1.4-1.9	1.7	50
pH water	:	4.5-7.4	5.6	43
pH $CaCl_2$	:	3.7-7.1	4.8	43
Consistence	:	Firm		

Features differentiating Debert soils

DRT22: 20 to 50 cm of friable coarse loamy soil over firm coarse loamy soil.

DRT52: 50 to 80 cm of friable coarse loamy soil over firm coarse loamy soil.
DRT82: greater than 80 cm of friable coarse loamy soil.

Compound map units

DRT52=MSW52	DRT52>MSW22	DRT52=QUE52
DRT52=PGW52	DRT52>MSW52	DRT52>QUE22
DRT52=QUE22	DRT52>PGW52	PGW52>DRT52*

DRT52-PGW52: Pugwash (PGW) soils are found on the upper slopes and crests of the map unit while Debert soils are found on the lower slopes and in depressions. Debert 52-Pugwash 52 map units are located on the valley floor and at the base of North Mountain on map sheets from Dempsey Corner to Kingsport. Map units also are located near Centre Burlington in Hants County and on map sheets from Paradise to Annapolis Royal.

DRT52-MSW: Masstown (MSW) soils are found in depressions and in drainage channels while Debert soils are found on the upper slopes and crests of the map unit. Debert-Masstown map units are located on the Woodside, Centre Burlington, Berwick, Middleton, Bridgetown and Annapolis Royal map sheets.

DRT52-QUE: Queens (QUE) and Debert soils are intermixed throughout the map unit. Debert52-Queens map units are located on map sheets west of Bridgetown, in the Avondale-Bishopville area and along the base of the North Mountain on the South Scots Bay, Woodside, Kinsman Corner, Grafton and Forest Glade map sheets. In this map unit Queens soils have a lower than average clay content while Debert soils have a higher than average clay content.

DRT52 map units

Debert 52 map units are located on the valley floor from Granville Centre east to Middleton, on map sheets along the base of North Mountain from Kingston east to South Scots Bay and in the east Hantsport to Centre Burlington (Fig. 1).

In the Hantsport area, the lower soil material of DRT52 soils have a clay content ranging from 15 to 17.9%. In this area Debert-Queens map units are common. Debert 52 map units found along the base of North Mountain or on the top have a higher than average gravel content. In the east on map sheets from Pereau to Centreville, pockets of sand are found in the surface material of Debert 52 soils.

DEBERT 82 SOILS (DRT82)

Lower soil material and landform

Lower soil material	: Coarse loamy till
Slopr (range; mean)	: 0.5 to 9.0%; 3.0%
Drainage	: Imperfect
Stoniness (range; mean)	: Nonstony to slightly stony; nonstony
Rockiness	: Nonrocky
Depth to constricting layer	: More than 80 cm

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	20-34	25	24
Particle size				
sand %	:	64-68	66	2
dominant sand size			Very coarse	
silt %	:	26-30	28	2
clay %	:	5-6	6	2
Hydraulic conductivity (cm/h)	:	0.0-7.1	1.9	5
Bulk density (g/cm^3)	:	1.0-1.1	1.1	5
Organic carbon (%)	:	1.3-4.3	2.8	2
pH water	:	-----	5.4	1
pH $CaCl_2$	:	-----	5.2	1
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	23-50	35	24
Particle size				
sand %	:	62-71	67	5
dominant sand size			Fine	
silt %	:	19-30	26	5
clay %	:	3-12	7	5
Hydraulic conductivity (cm/h)	:	0.1-5.8	1.3	15
Bulk density (g/cm^3)	:	0.9-1.3	1.1	15
Organic carbon (%)	:	0.4-2.0	1.3	4
pH water	:	4.1-5.1	4.6	4
pH $CaCl_2$	:	3.8-4.7	4.1	4
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	58-71	69	4
dominant sand size		Fine		
silt %	:	18-35	24	4
clay %	:	4-10	7	4
Hydraulic conductivity (cm/h)	:	0.1-4.2	0.8	10
Bulk density (g/cm^3)	:	1.2-1.5	1.3	10
pH water	:	4.6-5.6	5.3	4
pH $CaCl_2$	:	3.8-5.0	4.6	4
Consistence	:	Friable		

Features differentiating Debert soils

DRT22: 20 to 50 cm of friable coarse loamy soil over firm coarse loamy soil.
DRT52: 50 to 80 cm of friable coarse loamy soil over firm coarse loamy soil.
DRT82: greater than 80 cm of friable coarse loamy soil.

DRT82 map units

Debert 82 map units are located in the eastern end of the survey area on the Kentville, Kingsport, Pereau, Blomidon, South Scots Bay and Kinsman Corners map sheets and in the west on the Paradise, Lawrencetown W, Tupper Brook and Centrelea map sheets (Fig. 1).

When adjacent to Cornwallis map units, Debert soils have pockets of sand in their profiles. When adjacent to Queens map units, the clay content of Debert soils is higher than average while gravel content increases when they are associated with coarse loamy-gravelly map units. On the Pereau, South Scots Bay and Lawrencetown map sheets, Debert 82 soils have sandy surface horizons.

Debert 82 map units include minor inclusions of DRT25 and DRT24 soils.

ECONOMY 23 SOILS (ECY23)

Lower soil material and landform

Lower soil material	: Coarse loamy-gravelly till
Slope (range; mean)	: 0.5 to 5.0%; 2.0%
Drainage	: Poor
Stoniness (range; mean)	: Nonstony to very stony; slightly stony
Rockiness	: Nonrocky
Depth to constricting layer (range; mean)	: 14 to 49 cm; 34 cm
Kind of constricting layer	: Compact till

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	13-46	17	18
Particle size				
sand %	:	52-70	58	3
dominant sand size			Very coarse	
silt %	:	22-41	34	3
clay %	:	7-8	8	3
Hydraulic conductivity (cm/h)	:	0.1-2.9	0.6	5
Bulk density (g/cm^3)	:	1.1-1.3	1.2	5
pH water	:	5.1-6.0	5.4	3
pH $CaCl_2$	:	4.1-5.0	4.6	3
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	11-32	17	18
Particle size				
sand %	:	44-80	62	3
dominant sand size			Very coarse	
silt %	:	13-38	27	3
clay %	:	7-18	11	3
Hydraulic conductivity (cm/h)	:	0.1-0.3	0.1	5
Bulk density (g/cm^3)	:	1.5-1.7	1.6	5
pH water	:	5.0-6.2	5.6	3
pH $CaCl_2$	:	3.9-5.1	4.6	3
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	55-73	62	4
dominant sand size		Fine		
silt %	:	19-31	27	4
clay %	:	7-14	11	4
Hydraulic conductivity (cm/h)	:	0.1-0.1	0.1	5
Bulk density (g/cm^3)	:	1.7-1.8	1.7	5
pH water	:	5.1-6.6	5.7	4
pH $CaCl_2$	:	4.1-5.2	4.6	4
Consistence	:	Firm		

Features differentiating Economy soils

ECY23: 20 to 50 cm of friable coarse loamy-gravelly soil over firm coarse loamy-gravelly soil.
ECY53: 50 to 80 cm of friable coarse loamy-gravelly soil over firm coarse loamy-gravelly soil.

Compound map units

ECY23=SGL53 SGL22>ECY23* SGL53>ECY23*

ECY23-SGL53: Springhill (SGL) soils are found on the upper slopes and crests of the map unit. Economy soils are located on level areas, in depressions and in drainage channels within the map unit. Economy-Springhill map units are found in the eastern map sheets on North and South Mountain. One other occurrence is near Harmony on South Mountain. Economy-Springhill soils located on the South Mountain generally have a higher gravel content than map units on North Mountain.

ECY23 map units

Economy 23 map units are located on North and South Mountains. On North Mountain map units are found between Victoria Harbour and South Scots Bay in the east and around Granville Center in the west. On South Mountain map units are found around the Hantsport area (Fig. 1).

Economy 23 soils on South Mountain have 5 to 10% more gravel than on North Mountain. In the Hantsport area Economy soils tend to have a higher clay content than average.

Economy 23 map units include minor inclusions of ECY20, ECY21 and ECY22.

ECONOMY 53 SOILS (ECY53)

Lower soil material and landform

Lower soil material	: Coarse loamy-gravelly till
Slope (range; mean)	: 0.5 to 5.0%; 3.0%
Drainage	: Poor
Stoniness (range; mean)	: Nonstony to moderately stony; nonstony
Rockiness	: Nonrocky
Depth to constricting layer (range; mean)	: 50 to 70 cm; 52 cm
Kind of constricting layer	: Compact till

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	10-41	22	18
Particle size				
sand %	:	55-67	61	3
dominant sand size		Fine		
silt %	:	29-35	32	3
clay %	:	4-10	7	3
Organic carbon (%)	:	1.4-2.4	1.9	2
pH water	:	5.6-6.1	5.9	3
pH $CaCl_2$	:	5.1-5.6	5.4	3
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	22-51	30	18
Particle size				
sand %	:	41-67	56	3
dominant sand size		Very fine		
silt %	:	22-48	35	3
clay %	:	6-12	9	3
Organic Carbon (%)	:	0.3-0.5	0.8	2
pH water	:	6.2-6.5	6.3	3
pH $CaCl_2$	:	5.5-5.9	5.7	3
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	55-68	62	5
dominant sand size		Fine		
silt %	:	22-37	28	5
clay %	:	4-17	10	5
pH water	:	5.8-8.6	6.7	5
pH $CaCl_2$	:	5.2-6.9	5.9	5
Consistence	:	Firm		

Features differentiating Economy soils

ECY23: 20 to 50 cm of friable coarse loamy-gravelly soil over firm coarse loamy-gravelly soil.
ECY53: 50 to 80 cm of friable coarse loamy-gravelly soil over firm coarse loamy-gravelly soil.

ECY53 map units

Economy 53 map units are found on North Mountain from Douglas Road to Woodworth Creek map sheets (Fig. 1) and on South Mountain in the Nicholsville area.

Economy 53 soils on North Mountain have a lower gravel content than those on South Mountain. Economy 53 soils on South Mountain lack the peaty surface of soils on North Mountain. Economy 53 map units adjacent to Queens map units have a higher than average clay content.

Economy 53 map units include minor inclusions of ECY50 and ECY52.

FACTORYDALE 23 SOILS (FAC23)

Lower soil material and landform

Lower soil material	: Loamy-skeletal till
Slope (range; mean)	: 1.5 to 9.0%; 4.0%
Drainage	: Imperfect
Stoniness (range; mean)	: Nonstony to exceedingly stony; moderately stony
Rockiness (range; mean)	: Nonrocky to very rocky; nonrocky
Depth to constricting layer (range; mean)	: 29 to 50 cm; 46 cm
Kind of constricting layer	: Compact till

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	12-40	26	15
Particle size				
sand %	:	41-50	45	2
dominant sand size		Very fine		
silt %	:	44-49	46	2
clay %	:	6-11	9	2
Organic carbon (%)	:	-----	4.3	1
pH water	:	4.6-5.0	4.8	2
pH $CaCl_2$	:	3.7-4.5	4.1	2
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	19-41	20	15
Particle size				
sand %	:	61-79	70	2
dominant sand size		Very coarse		
silt %	:	17-36	26	2
clay %	:	3-4	4	2
Organic Carbon (%)	:	-----	1.2	1
pH water	:	5.3-5.4	5.3	2
pH $CaCl_2$	:	4.5-4.7	4.6	2
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	57-80	68	3
dominant sand size		Very coarse		
silt %	:	16-35	27	3
clay %	:	3-7	5	3
pH water	:	4.9-5.9	5.5	3
pH $CaCl_2$	:	4.3-5.1	4.7	3
Consistence	:	Friable		

Compound map units

FAC23=NTV23 FAC23>MRW23 MRW87>FAC23*

FAC23-NTV23: Newtonville (NTV) soils occur in depressions and low areas where surface water ponds in the spring. Factorydale soils are found on the upper slopes and crests of the map unit. Factorydale-Newtonville map units are located on North and South Mountain. Units are found on the South Alton, Aylesford Lake and West Glenmont map sheets (Fig. 1).

FAC23-MRW23: Morristown (MRW) soils are found on the upper slopes and crests of the map unit. Factorydale soils are found on the lower slopes, in depressions and sometimes in drainage channels. Factorydale-Morristown map units are found on South Mountain on the Harmony map sheet and from Canaan to Newtonville. On North Mountain map units are located between Centreville and West Glenmont (Fig.1).

FAC23 map units

Factorydale 23 map units are found on South Mountain from Nictaux Falls to Newtonville and on North Mountain between West Glenmont and Centreville and on the Forest Glade map sheet (Fig. 1).

Shallow to bedrock soils occur in the same area as Factorydale map units and small pockets may be included in Factorydale 23 map units.

Inclusions found in FAC23 map units are FAC53 and FAC87 soils.

FASH 52 SOILS (FSH52)

Lower soil material and landform

Lower soil material	: Fine loamy lacustrine
Slope (range; mean)	: 1.0 to 4.0%; 2.0%
Drainage	: Imperfect
Stoniness	: Nonstony
Rockiness	: Nonrocky
Depth to contrasting layer (range; mean)	: 50 to 69 cm; 53 cm
Kind of contrasting layer	: Variation in particle size

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	19-24	22	5
Particle size				
sand %	:	31-70	53	3
dominant sand size		Fine		
silt %	:	28-64	42	3
clay %	:	2-8	5	3
pH water	:	4.5-5.8	5.3	3
pH $CaCl_2$	:	3.8-5.2	4.5	3
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	14-45	31	5
Particle size				
sand %	:	55-76	66	3
dominant sand size		Very coarse		
silt %	:	17-36	26	3
clay %	:	7-10	8	3
pH water	:	5.7-6.5	6.1	3
pH $CaCl_2$	:	4.6-6.0	5.2	3
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	9-46	30	3
dominant sand size		Very fine		
silt %	:	36-64	50	3
clay %	:	13-28	20	3
pH water	:	5.6-6.9	6.2	3
pH $CaCl_2$	:	4.6-6.2	5.4	3
Consistence	:	Friable to firm		

Features differentiating Fash soils

FSH52: 50 to 80 cm of friable coarse loamy soil over firm fine loamy soil.
FSH80: greater than 80 cm of firm fine loamy soil.

Compound map units

FSH52=LWR52 FSH52>LWR52

FSH52-LWR52: Lawrencetown (LWR) soils are located in depressions and low areas of the map unit while Fash soils are found on the upper slope areas. The Fash-Lawrencetown map units are located in the western end of the survey area on the valley floor between Middleton and Centrelea. Map units are also found on the Woodside map sheet (Fig.1). The subsoil of the Lawrencetown soils tends to be bluish-gray color while the Fash soils are reddish brown.

FSH 52 map units

Fash 52 map units are located on the valley floor between Middleton and Bridgetown. Map units are also found on Granville Center, North Kingston, Woodside and Bishopville map sheets (Fig. 1).

The color and consistence of the lower soil material of Fash 52 and QUE 52 soils are similar. However, the silt content of the Fash soil is higher and the bulk density of the C horizon tends to be lower. On the Brooklyn, Lawrencetown and Woodside map sheets, the surface material of the Fash soils tends to have a higher than average content of gravel and sand.

Fash 52 map units include minor inclusions of FSH54 and FSH55 soils. Imperfectly drained lacustrine soils with a coarse loamy or coarse silty lower soil material were included in Fash 52 map units.

FASH 80 SOILS (FSH80)

Soil material and landform

Soil material	: Fine loamy lacustrine
Slope (range; mean)	: 1.0 to 3.0%; 2.0%
Drainage	: Imperfect
Stoniness	: Nonstony
Rockiness	: Nonrocky

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	14-36	25	86
Particle size				
sand %	:	15-52	34	4
dominant sand size		Fine		
silt %	:	40-70	50	4
clay %	:	4-24	16	4
Hydraulic conductivity (cm/h)	:	0.0-8.2	0.8	15
Bulk density (g/cm^3)	:	0.3-1.5	1.2	15
Organic carbon (%)	:	2.2-3.8	2.9	4
pH water	:	5.0-6.1	5.6	3
pH $CaCl_2$	:	4.4-6.0	5.2	3
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	13-68	29	86
Particle size				
sand %	:	18-36	27	2
dominant sand size		Fine		
silt %	:	46-53	50	2
clay %	:	18-29	23	2
Hydraulic conductivity (cm/h)	:	0.1-0.2	0.1	5
Bulk density (g/cm^3)	:	1.3-1.4	1.4	5
Organic carbon (%)	:	-----	1.2	1
pH water	:	4.9-5.2	5.0	2
pH $CaCl_2$	:	4.0-4.6	4.3	2
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	6-14	8	4
dominant sand size		Very coarse		
silt %	:	49-65	57	4
clay %	:	29-39	35	4
Hydraulic conductivity (cm/h)	:	0.0-0.4	0.1	15
Bulk density (g/cm^3)	:	1.2-1.5	1.4	15
pH water	:	4.7-7.0	5.7	4
pH $CaCl_2$	:	4.0-6.4	5.0	4
Consistence	:	Friable		

Features differentiating Fash soils

FSH52: 50 to 80 cm of friable coarse loamy soil over firm fine loamy soil.
FSH80: greater than 80 cm of firm fine loamy soil.

Compound map units

FSH80=LWR80 FSH80>LWR80 LWR80>FSH80*

FSH80-LWR80: Lawrencetown (LWR) soils are located in depressions and low areas of the map unit while Fash soils are located on the upper slopes and crests. The Fash-Lawrencetown map units are found on the valley floor on the Woodside and North Kingston map sheets and between Middleton and Centrelea (Fig.1).

FSH80 map units

Fash 80 map units are located on the valley floor from Middleton to Centrelea and on the Lequille, Granville Centre, Centreville, Woodside and Kentville map sheets (Fig. 1).

Fash 80 soils are similar to Queens 20 soils in color, consistence and location. The soils differ in silt content and bulk density of the lower soil material. Fash soils have a higher silt content and lower bulk density than Queens soils. When found in the same area as Truro and Cornwallis map units, clay content of the Fash 80 soils tends to be lower than average.

FALMOUTH 22 SOILS (FUH22)

Lower soil material and landform

Lower soil material	: Fine loamy till
Slope (range; mean)	: 0.5 to 20.0%; 5.0%
Drainage	: Moderately well
Stoniness (range; mean)	: Nonstony to slightly stony; nonstony
Rockiness	: Nonrocky
Depth to constricting layer (range; mean)	: 23 to 49 cm; 47 cm
Kind of constricting layer	: Compact till

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	13-78	23	143
Particle size				
sand %	:	51-64	56	3
dominant sand size		Very coarse		
silt %	:	30-44	38	3
clay %	:	6-6	6	3
Hydraulic conductivity (cm/h)	:	0.0-7.2	1.6	10
Bulk density (g/cm^3)	:	0.9-1.2	1.1	10
Organic carbon (%)	:	5.2-5.4	5.3	2
pH water	:	4.5-5.5	5.0	3
pH $CaCl_2$	:	4.2-4.8	4.5	3
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	10-52	24	143
Particle size				
sand %	:	58-76	69	4
dominant sand size		Fine		
silt %	:	18-31	25	4
clay %	:	2-11	6	4
Hydraulic conductivity (cm/h)	:	0.1-1.6	0.7	10
Bulk density (g/cm^3)	:	1.0-1.4	1.2	10
Organic carbon (%)	:	1.9-3.1	2.5	2
pH water	:	5.1-5.6	5.4	3
pH $CaCl_2$	:	4.5-4.9	4.6	3
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	10-44	30	9
dominant sand size		Very fine		
silt %	:	29-57	41	9
clay %	:	20-38	29	9
Hydraulic conductivity (cm/h)	:	0.0-0.0	0.0	10
Bulk density (g/cm^3)	:	1.8-1.9	1.8	10
pH water	:	5.6-7.2	6.1	9
pH $CaCl_2$	:	4.8-6.4	5.4	9
Consistence	:	Firm		

Features differentiating Falmouth soils

FUH22: 20 to 50 cm of friable coarse loamy soil over firm fine loamy soil.
FUH52: 50 to 80 cm of friable coarse loamy soil over firm fine loamy soil.

Compound map units

FUH22=QUE22 FUH22>QUE22 QUE20>FUH22*

FUH22-QUE22: Queens (QUE) soils occur in depressions and low areas of the map unit while Falmouth 22 soils are found on the upper slope and crests. The Falmouth-Queens map units are located along the escarpment of North Mountain between Woodworth Creek and Kingston in Kings County. Units are found on the Nictaux Falls map sheet in Annapolis County (Fig.1).

FUH22 map units

Falmouth 22 map units are found along the escarpment of North Mountain between Woodworth Creek and Paradise. In addition, map units are found on South Mountain on the Nictaux Falls map sheet (Fig. 1). The Falmouth map units are generally located on gentle to moderate slopes and are seldom found on the valley floor.

The lower soil material of Falmouth 22 soils on the Woodworth Creek, Vernon Mines and Grafton map sheets has a lower clay content then on the Lawrencetown and Brooklyn map sheets. On the upper slopes of the North Mountain especially in the Brooklyn area, the surface material may be fine loamy or coarse loamy-gravelly.

Falmouth 22 map units include minor inclusions of FUH20, FUH21 and FUH23 soils.

FALMOUTH 52 SOILS (FUH52)

Lower soil material and landform

Lower soil material	: Fine loamy till
Slope (range; mean)	: 0.5 to 22.0%; 5.0%
Drainage	: Moderately well
Stoniness (range; mean)	: Nonstony to slightly stony; nonstony
Rockiness	: Nonrocky
Depth to constricting layer (range; mean)	: 52 to 95 cm; 59 cm
Kind of constricting layer	: Compact till

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	17-40	25	177
Particle size				
sand %	:	50-64	57	6
dominant sand size		Very fine		
silt %	:	24-44	35	6
clay %	:	4-12	8	6
Hydraulic conductivity (cm/h)	:	0.2-3.9	2.1	5
Bulk density (g/cm^3)	:	1.0-1.1	1.0	5
Organic carbon (%)	:	2.6-6.0	4.3	2
pH water	:	4.4-6.1	5.4	7
pH $CaCl_2$	:	3.8-5.9	4.7	7
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	13-74	34	177
Particle size				
sand %	:	39-64	57	5
dominant sand size		Very fine		
silt %	:	6-43	35	5
clay %	:	5-12	8	5
Hydraulic conductivity (cm/h)	:	0.3-2.1	1.1	5
Bulk density (g/cm^3)	:	1.1-1.2	1.2	5
Organic carbon (%)	:	0.5-2.2	1.4	2
pH water	:	4.6-6.8	5.6	6
pH $CaCl_2$	:	3.9-5.9	4.8	6
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	5-53	36	20
dominant sand size		Very fine		
silt %	:	26-56	40	20
clay %	:	18-39	24	20
Hydraulic conductivity (cm/h)	:	0.1-0.3	0.1	5
Bulk density (g/cm^3)	:	1.7-1.8	1.8	5
pH water	:	5.0-6.8	6.0	20
pH $CaCl_2$	:	4.2-5.9	5.1	20
Consistence	:	Firm		

Features differentiating Falmouth soils

FUH22: 20 to 50 cm of friable coarse loamy soil over firm fine loamy soil.
FUH52: 50 to 80 cm of friable coarse loamy soil over firm fine loamy soil.

Compound map units

FUH52>QUE22 QUE22>FUH52*

FUH52-QUE22: Queens 22 (QUE22) soils are found in depressions and low areas of the map unit while Falmouth soils are found on the upper slopes and crests. With the exception of Nictaux Falls and Avonport Station map sheets, Falmouth-Queens map units are found along the escarpment of North Mountain from North Kingston to Woodworth Creek (Fig. 1).

FUH52 map units

Falmouth 52 map units are found on the escarpment of North Mountain from Brooklyn to Blomidon and on the Woodside, Pereau, Grand Pre and Nictaux Falls map sheets (Fig. 1).

The clay content of the lower soil material of Falmouth 52 soils found east of the North Kingston map sheet is lower than average. The lower soil material of Falmouth 52 soils found west of North Kingston tends to have a higher than average clay content.

Falmouth 52 map units include minor inclusions of FUH53 soil.

GLENHOLME 52 SOILS (GNH52)

Lower soil material and landform

Lower soil material	: Fine sandy glaciofluvial
Slope (range; mean)	: 0.5 to 5.0%; 3.0%
Drainage	: Poor
Stoniness	: Nonstony
Rockiness	: Nonrocky
Depth to contrasting layer	: 63 cm
Kind of contrasting layer	: Particle size variation

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	-----	29	1
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	-----	34	1
Consistence	:	Friable		

C horizon

Consistence	: Loose

Features differentiating Glenholme soils

GNH52: 20 to 50 cm of friable coarse loamy soil over loose fine sandy soil.
GNH84: greater than 80 cm of loose fine sandy soil.

GNH52 map units

Glenholme 52 map units are located on the Centreville and Middleton map sheets (Fig. 1).

Glenholme soils often are stratified. Layers within the top 80 cm have a particle size ranging from sand to fine loamy. When adjacent to till areas, the surface material of a Glenholme soil tends to have a higher than average clay content. When adjacent to Cornwallis map units, the surface material tends to have a higher than average sand content.

Glenholme map units are commonly found in depressions surrounded by rapidly to well drained glaciofluvial sands.

Glenholme map units include minor inclusions of GNH53 and GNH55.

GLENHOLME 84 SOILS (GNH84)

Lower soil material and landform

Lower soil material	: Fine sandy glaciofluvial
Slope (range; mean)	: 0.5 to 3.0%; 2.0%
Drainage	: Poor
Stoniness	: Nonstony
Rockiness	: Nonrocky

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	17-20	18	2
Consistence	:	Very Friable to loose		

B horizon		Range	Mean	Number
Thickness (cm)	:	16-35	25	2
Consistence	:	Very Friable to loose		

C horizon

Consistence	: Loose

Features differentiating Glenholme soils

GNH52: 20 to 50 cm of friable coarse loamy soil over loose fine sandy soil.
GNH84: greater than 80 cm of loose fine sandy soil.

GNH84 map units

Glenholme 84 map units are located on the Prospect, Bishopville and Paradise map sheets (Fig. 1) in areas where sandy soils are prominent. Map units are commonly found in depressions surrounded by well drained glaciofluvial sands.

Glenholme 84 soils are usually stratified with individual layers ranging in particle size from sandy to coarse loamy.

Glenholme map units include minor inclusions of MLL54.

HEBERT 23 SOILS (HBT23)

Lower soil material and landform

Lower soil material	: Sandy-gravelly to sandy-skeletal glaciofluvial
Slope (range; mean)	: 1.0 to 15.0%; 4.0%
Drainage	: Rapid
Stoniness (range; mean)	: Nonstony to moderately stony; nonstony
Rockiness	: Nonrocky
Depth to contrasting layer (range; mean)	: 28 to 49 cm; 45 cm
Kind of contrasting layer	: Variation in particle size

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	14-39	25	52
Particle size				
sand %	:	61-74	68	5
dominant sand size		Very coarse		
silt %	:	21-33	27	5
clay %	:	3-6	5	5
Organic carbon (%)	:	3.3-3.8	3.6	2
pH water	:	4.7-5.5	5.1	4
pH $CaCl_2$	:	3.9-4.9	4.3	4
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	14-58	20	52
Particle size				
sand %	:	75-87	79	4
dominant sand size		Very coarse		
silt %	:	10-22	17	4
clay %	:	2-5	4	4
Organic carbon (%)	:	0.6-0.8	0.7	2
pH water	:	4.7-5.6	5.1	4
pH $CaCl_2$	:	3.9-5.1	4.4	4
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	74-85	83	6
dominant sand size		Very coarse		
silt %	:	4-23	14	6
clay %	:	1-4	3	6
pH water	:	4.6-5.7	5.3	6
pH $CaCl_2$	:	3.9-5.2	4.6	6
Consistence	:	Loose		

Features differentiating Hebert soils

HBT23: 20 to 50 cm of friable coarse loamy-gravelly soil over loose sandy gravelly soil.
HBT53: 50 to 80 cm of friable coarse loamy-gravelly soil over loose sandy gravelly soil.
HBT86: greater than 80 cm of loose sandy-gravelly soil.

Compound map units

HBT23>CNWX5

HBT23-CNWX5: Cornwallis X5 (CNW) soils and Hebert soils are randomly mixed in the map unit. Hebert-Cornwallis map units are only found on the Prospect map sheet where the CNWX5 soil has pockets of sandy-gravelly soil in the lower soil material.

HBT23 map units

With the exception of Lawrencetown E, Brooklyn and South Scots Bay map sheets, Hebert 23 map units occur at the base of the South Mountain escarpment (Fig. 1).

Hebert 23 soils located on North Mountain have a higher than average content of cobbles and gravel. Hebert 23 soils located on the valley floor have a lower than average coarse fragment content composed primarily of rounded gravels. Hebert 23 soils located on South Mountain escarpment have a higher coarse fragment content than on the valley floor but a lower content than on North Mountain. Hebert soils found on South Mountain escarpment have coarse fragments composed primarily of shale or slate as compared to the igneous and metamorphics fragments found in the valley soils and the basalts which are the primary coarse fragments in the North Mountain soils.

The Hebert 23 map units include minor inclusions of HBT25 and HBT22 soils.

HEBERT 53 SOILS (HBT53)

Lower soil material and landform

Lower soil material	: Sandy-gravelly to sandy-skeletal glaciofluvial
Slope (range; mean)	: 1.0 to 16.0%; 4.0%
Drainage (range; mean)	: Rapid to well; well
Stoniness (range; mean)	: Nonstony to very stony; nonstony
Rockiness	: Nonrocky
Depth to contrasting layer (range; mean)	: 51 to 72 cm; 59 cm
Kind of contrasting layer	: Variation in particle size

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	6-37	24	111
Particle size				
sand %	:	42-74	57	6
dominant sand size		Very fine		
silt %	:	19-52	35	6
clay %	:	5-10	7	6
Organic carbon (%)	:	-----	0.3	1
pH water	:	5.3-6.6	5.7	7
pH $CaCl_2$	:	4.2-6.2	4.9	7
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	9-65	35	111
Particle size				
sand %	:	51-73	65	5
dominant sand size		Very coarse		
silt %	:	24-47	30	5
clay %	:	2-7	5	5
Organic carbon (%)	:	-----	2.4	1
pH water	:	5.1-6.0	5.7	5
pH $CaCl_2$	:	4.4-5.2	4.8	5
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	81-98	86	14
dominant sand size		Very coarse		
silt %	:	2-20	12	14
clay %	:	0-5	2	14
pH water	:	5.1-6.4	5.8	14
pH $CaCl_2$	:	4.2-5.4	5.0	14
Consistence	:	Loose		

Features differentiating Hebert soils

HBT23: 20 to 50 cm of friable coarse loamy-gravelly soil over loose sandy gravelly soil.
HBT53: 50 to 80 cm of friable coarse loamy-gravelly soil over loose sandy gravelly soil.
HBT86: greater than 80 cm of loose sandy gravelly soil.

Compound map units

HBT53=HBT86 HBT53=HFD83 HBT53>CMU53

HBT53-HBT86: Hebert soils are often mixed in level map units. When located on undulating topography, Hebert 53 soils are often found on the lower slopes while Hebert 86 soils are found on the upper slopes. Hebert 53-86 map units are found from Granville Centre to Deep Brook and on the Middleton and Nictaux Falls map sheets (Fig.1).

HBT53-HFD83: Hansford (HFD) and Hebert soils are mixed throughout the map unit. Some units of Hebert-Hansford are found on the Prospect, Melanson and Harmony map sheets but the majority are found in the west on the South Mountain escarpment.

HBT53-CMU53: Comeau (CMU) soils are located in low areas and depressions while the Hebert soils are found on the upper slopes. Hebert-Comeau map units are found on the South Mountain escarpment west of Aylesford Lake (Fig.1). Some units are also located on the Melanson map sheet on South Mountain and on the Woodworth Creek and South Scots Bay map sheets on North Mountain. On the Melanson map sheet, the surface material of the Hebert-Comeau soils have a particle size ranging from coarse loamy to coarse silty.

HBT53 map units

Hebert 53 map units are found on all map sheets west of Bridgetown, on the South Mountain escarpment and on South Scots Bay and Woodworth Creek map sheets (Fig. 1).

Hebert 53 soils located on North Mountain have a higher than average cobble and gravel content. Hebert 53 soils located on the valley floor have a lower than average coarse fragment content composed primarily of rounded gravels. Hebert 53 soils found west of Bridgetown often include layers of loamy-gravelly till material in their profiles. Hebert 53 soils located on the South Mountain escarpment have a higher coarse fragment content than on the valley floor but a lower content than on North Mountain. Hebert soils found on the South Mountain escarpment have coarse fragments composed

primarily of shale or slate as compared to the igneous and metamorphics fragments found in the valley soils and the basalts which are the primary coarse fragments of the North Mountain soils.

The Hebert 53 map units include minor inclusions of HBT52 soil.

HEBERT 86 SOILS (HBT86)

Lower soil material and landform

Lower soil material	: Sandy-gravelly to sandy-skeletal glaciofluvial
Slope (range; mean)	: 1.0 to 16.0%; 4%
Drainage	: Rapid
Stoniness (range; mean)	: Nonstony to very stony; nonstony
Rockiness (range)	: Nonrocky

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	10-40	24	287
Particle size				
sand %	:	76-93	81	14
dominant sand size		Very coarse		
silt %	:	4-20	16	14
clay %	:	1-6	3	14
Organic carbon (%)	:	2.7-3.8	3.3	2
pH water	:	4.6-6.2	5.4	14
pH $CaCl_2$	:	3.8-5.8	4.7	14
Consistence	:	Loose		

B horizon		Range	Mean	Number
Thickness (cm)	:	11-50	37	287
Particle size				
sand %	:	78-98	87	21
dominant sand size		Very coarse		
silt %	:	0-20	10	21
clay %	:	0-6	3	21
Organic carbon (%)	:	0.5-2.0	1.3	2
pH water	:	4.9-6.7	5.8	22
pH $CaCl_2$	:	4.1-6.1	5.0	22
Consistence	:	Loose		

C horizon		Range	Mean	Number
Particle size				
sand %	:	78-99	91	34
dominant sand size		Very coarse		
silt %	:	0-22	7	34
clay %	:	0-5	2	34
pH water	:	4.9-7.2	5.7	34
pH $CaCl_2$	:	4.1-5.9	5.0	34
Consistence	:	Loose		

Features differentiating Hebert soils

HBT23: 20 to 50 cm of friable coarse loamy-gravelly soil over loose sandy-gravelly soil.
HBT53: 50 to 80 cm of friable coarse loamy-gravelly soil over loose sandy-gravelly soil.
HBT86: greater than 80 cm of loose sandy-gravelly soil.

Compound map units

HBT86=HFD83	HBT86>CNW85	CNW85>HBT86*
HBT86>CNWX5	CNW85=HBT86*	

HBT86-HFD83: Hansford (HFD) soil are found on the upper slope positions and Hebert soils are found on lower slopes. Hebert-Hansford map units are found on the Prospect, Newtonville and Nicholsville map sheets but most are found in the west on the South Mountain escarpment (Fig.1).

HBT86-CNW: Cornwallis (CNW) and Hebert soils are randomly mixed throughout the map unit. Hebert-Cornwallis map units are found on the Prospect, Woodside, Middleton and Victoria Vale map sheets but the majority are located on map sheets west of Bridgetown (Fig.1).

HBT86 map units

Hebert 86 map units are located on the Prospect, Melanson, Grand Pre, Newtonville, Nicholsville, Aylesford Lake, Woodside and South Scots Bay map sheets. The majority, however, are found on map sheets west of Middleton (Fig. 1).

Hebert 86 soils located on North Mountain have a higher than average cobble and gravel content composed primarily of basalt. Hebert 86 soils located on the valley floor have a lower than average coarse fragment content composed primarily of rounded gravels of igneous and metamorphic origin. Hebert 86 soils located on the South Mountain escarpment have a higher coarse fragment content than on the valley floor but a lower

coarse fragment content than on North Mountain. Hebert soils found on the South Mountain escarpment have coarse fragments composed of shale or slate.

The Hebert 86 map units include minor inclusions of HBT57 and HBT88 soils.

HANSFORD 23 SOILS (HFD23)

Lower soil material and landform

Lower soil material	: Coarse loamy-gravelly till
Slope (range; mean)	: 0.5 to 14.0%; 5.0%
Drainage	: Moderately well
Stoniness (range; mean)	: Nonstony to very stony; nonstony
Rockiness	: Nonrocky
Depth to constricting layer (range; mean)	: 14 to 50 cm; 45 cm
Kind of constricting layer	: Compact till

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	8-40	19	98
Particle size				
sand %	:	48-72	59	8
dominant sand size		Fine		
silt %	:	23-46	32	8
clay %	:	5-16	9	8
Hydraulic conductivity (cm/h)	:	0.1-7.4	2.3	10
Bulk density (g/cm^3)	:	0.9-1.5	1.1	10
Organic carbon (%)	:	2.0-3.0	2.5	2
pH water	:	4.9-6.0	5.6	8
pH $CaCl_2$	:	4.2-5.3	4.7	8
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	14-48	26	98
Particle size				
sand %	:	45-71	59	9
dominant sand size		Very fine		
silt %	:	24-41	32	9
clay %	:	4-14	9	9
Hydraulic conductivity (cm/h)	:	0.2-3.8	1.7	10
Bulk density (g/cm^3)	:	1.0-1.4	1.2	10
Organic carbon (%)	:	1.3-1.6	1.5	2
pH water	:	5.0-6.0	5.3	9
pH $CaCl_2$	:	4.1-4.9	4.5	9
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	48-72	59	12
dominant sand size		Fine		
silt %	:	24-38	31	12
clay %	:	3-17.9	10	12
Hydraulic conductivity (cm/h)	:	0.1-0.2	0.1	5
Bulk density (g/cm^3)	:	1.8-1.9	1.8	5
pH water	:	4.7-6.3	5.4	12
pH $CaCl_2$	:	3.7-5.1	4.4	12
Consistence	:	Firm		

Features differentiating Hansford soils

HFD23: 20 to 50 cm of friable coarse loamy-gravelly soil over firm coarse loamy-gravelly soil.
HFD52: 50 to 80 cm of friable coarse loamy soil over firm coarse loamy-gravelly soil.
HFD53: 50 to 80 cm of friable coarse loamy-gravelly soil over firm coarse loamy-gravelly soil.
HFD83: greater than 80 cm of coarse loamy-gravelly soil.

Compound map units

HFD23>SGL22 HFD23=SHN23

HFD23-SGL22: Springhill (SGL) soils are found in low areas and depressions while Hansford soils are found on the upper slopes and crests. Hansford-Springhill map units are located on North and South Mountain on the Welsford, Nicholsville, Granville Centre, Annapolis Royal and Deep Brook map sheets (Fig.1).

HFD23-SHN23: South Alton (SHN) soils are found on the upper slopes and crests where rock outcrops are prominent while Hansford soils are found on the lower slopes. With the exception of the Deep Brook map sheet, Hansford-South Alton map units are located on North Mountain from West Glenmont to Forest Glade (Fig.1).

HFD23 map units

Hansford 23 map units are located on North Mountain from Annapolis Royal to Blomidon (Fig. 1). Map units are also found on the Deep Brook, Nicholsville and Newtonville map sheets on South Mountain.

Hansford 23 soils on South Mountain generally have a higher gravel content than on North Mountain. Hansford soils on the South Mountain may also have sandy-gravelly lenses, especially on the Nicholsville map sheet.

Hansford 23 map units include minor inclusions of HFD22, HFD25 and HFD26 soils.

HANSFORD 52 SOILS (HFD52)

Lower soil material and landform

Lower soil material	: Coarse loamy-gravelly till
Slope (range; mean)	: 2.0 to 18.0%; 4.0%
Drainage (range; mean)	: Moderately well to well; well
Stoniness (range; mean)	: Nonstony to moderately stony; nonstony
Rockiness	: Nonrocky
Depth to constricting layer (range; mean)	: 50 to 91 cm; 57 cm
Kind of constricting layer	: Compact till

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	10-36	21	157
Particle size				
sand %	:	45-67	56	11
dominant sand size		Very fine		
silt %	:	24-47	37	11
clay %	:	3-14	7	11
Hydraulic conductivity (cm/h)	:	0.2-9.5	3.9	5
Bulk density (g/cm^3)	:	1.3-1.6	1.4	5
Organic carbon (%)	:	2.6-5.0	3.6	5
pH water	:	3.7-6.5	5.0	11
pH $CaCl_2$	:	3.1-6.0	4.3	11
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	17-55	36	157
Particle size				
sand %	:	50-74	63	11
dominant sand size		Very fine		
silt %	:	20-41	31	11
clay %	:	2-14	6	11
Hydraulic conductivity (cm/h)	:	0.6-8.3	3.7	5
Bulk density (g/cm^3)	:	1.3-1.6	1.4	5
Organic carbon (%)	:	0.6-2.1	1.2	5
pH water	:	4.4-6.8	5.1	11
pH $CaCl_2$	:	3.6-5.6	4.4	11
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	48-76	62	12
dominant sand size		Very fine		
silt %	:	17-38	28	12
clay %	:	4-17	10	12
Hydraulic conductivity (cm/h)	:	0.0-0.7	0.3	5
Bulk density (g/cm^3)	:	1.7-1.8	1.7	5
pH water	:	4.9-6.2	5.5	12
pH $CaCl_2$	:	3.8-5.8	4.7	12
Consistence	:	Firm		

Features differentiating Hansford soils

HFD23: 20 to 50 cm of friable coarse loamy-gravelly soil over firm coarse loamy-gravelly soil.
HFD52: 50 to 80 cm of friable coarse loamy soil over firm coarse loamy-gravelly soil.
HFD53: 50 to 80 cm of friable coarse loamy-gravelly soil over firm coarse loamy-gravelly soil.
HFD83: greater than 80 cm of coarse loamy-gravelly soil.

Compound map units

HFD52=SGL52	HFD52>SGL52
HFD52>SGL22	SGL52>HFD52*

HFD52-SGL: Springhill (SGL) soils are found in low areas and depressions while Hansford soil are found on the upper slope and crests. Hansford-Springhill map units are located on South Mountain on map sheets west of Centrelea and on the

Nicholsville, Aylesford Lake, Prospect and Newtonville map sheets. On North Mountain, map units are found on the Kingston, Welsford and Whites Corner map sheets (Fig. 1).

HFD52 map units

Hansford map units are found on North and South Mountain as well as the escarpments of both mountains (Fig. 1).

Hansford 52 soils found on the escarpment of South Mountain west of Bridgetown have lenses of sandy soil. This usually occurs when Hansford 52 map units are adjacent to Hebert map units.

The Hansford 52 map units include minor inclusions of HFD55 soils.

HANSFORD 53 SOILS (HFD53)

Lower soil material and landform

Lower soil material	: Coarse loamy-gravelly till
Slope (range; mean)	: 1.0 to 30.0%; 4.5%
Drainage (range; mean)	: Moderately well to well; well
Stoniness (range; mean)	: Nonstony to very stony; slightly stony
Rockiness	: Nonrocky
Depth to constricting layer (range; mean)	: 50 to 89 cm; 54 cm
Kind of constricting layer	: Compact till

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	2-50	22	749
Particle size				
sand %	:	46-71	62	20
dominant sand size		Fine		
silt %	:	22-45	32	20
clay %	:	1-15	6	20
Organic carbon (%)	:	2.0-9.5	5.3	4
pH water	:	4.5-5.9	5.3	20
pH $CaCl_2$	:	3.7-5.4	4.6	20
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	1-62	35	749
Particle size				
sand %	:	49-81	64	18
dominant sand size		Fine		
silt %	:	10-47	28	18
clay %	:	2-17	8	18
Organic carbon (%)	:	1.0-5.1	2.9	4
pH water	:	4.4-6.3	5.4	18
pH $CaCl_2$	:	3.8-5.8	4.8	18
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	45-79	61	46
dominant sand size		Fine		
silt %	:	17-42	30	46
clay %	:	3-17	9	46
pH water	:	4.8-7.0	5.8	46
pH $CaCl_2$	:	3.8-6.0	5.0	46
Consistence	:	Firm		

Features differentiating Hansford soils

HFD23: 20 to 50 cm of friable coarse loamy-gravelly soil over firm coarse loamy-gravelly soil.
HFD52: 50 to 80 cm of friable coarse loamy soil over firm coarse loamy-gravelly soil.
HFD53: 50 to 80 cm of friable coarse loamy-gravelly soil over firm coarse loamy-gravelly soil.
HFD83: greater than 80 cm of coarse loamy-gravelly soil.

Compound map units

HFD53=SGL53	HFD53=SHN23	HFD53>VRN23
HFD53=SHN53	HFD53>HTP53	SGL53>HFD53*
HFD53>SGL22	HFD53>SGL53	SHN23>HFD53*
HFD53>SHN23	HFD53>SHN53	VRN23>HFD53*

HFD53-SGL: Springhill (SGL) soils are found in low areas and depressions while Hansford soils are found on the upper slopes and crests. Hansford-Springhill map units are located on North and South Mountain (Fig.1).

HFD53-SHN: South Alton (SHN) soils are usually found on the upper slopes and crests where rock outcrops are prominent while Hansford soils are found on the lower slopes and on level topography. Hansford-South Alton map units are found on North Mountain from South Scots Bay to Mount Hanley, with a few occurrences on the Canaan and Nictaux Falls map sheets on South Mountain (Fig.1).

HFD53-VRN23: Vernon Mines (VRN) soils are located on the lower slopes areas and depressions while Hansford soils are found on level topography. Hansford-Vernon Mines map units are located on map sheets east of Middleton on North and South Mountains and on the Deep Brook map sheet.

HFD53-HTP53: Hantsport (HTP) soils usually occur in depressions and on the lower slopes of the map unit. Hansford soils are found on upper slopes. Hansford-Hantsport map units are not common. They are located on North and South Mountain on the Melanson, Greenfield, Woodworth Creek, Nictaux Falls and Forest Glade map sheets. When mapped with the Hantsport soils, Hansford soils have a higher than average clay content.

HFD53 map units

Hansford 53 map units are located on North and South Mountain.

Hansford 53 soils found on South Mountain between Nictaux Falls and Deep Brook have lenses of sandy-gravelly material. This layering is particularly noticeable in areas where Hebert map units are adjacent to Hansford map units. Along the lower slopes of North and South Mountains, the C horizon of the Hansford 53 soils has a higher than average gravel content.

HANSFORD 83 SOILS (HFD83)

Lower soil material and landform

Lower Soil material	: Coarse loamy-gravelly till
Slope (range; mean)	: 1.0 to 19.0%; 5.0%
Drainage (range; mean)	: Moderately well to well; well
Stoniness (range; mean)	: Nonstony to very stony; slightly stony
Rockiness	: Nonrocky

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	12-29	21	64
Particle size				
sand %	:	53-70	61	6
dominant sand size		Fine		
silt %	:	25-42	32	6
clay %	:	2-14	7	6
Organic carbon (%)	:	4.3-10.9	6.4	4
pH water	:	4.3-5.8	4.8	6
pH $CaCl_2$	:	3.8-4.9	4.2	6
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	15-58	36	64
Particle size				
sand %	:	43-75	59	5
dominant sand size		Very fine		
silt %	:	21-48	36	5
clay %	:	2-9	5	5
Hydraulic conductivity (cm/h)	:	5.1-27.1	15.9	5
Bulk density (g/cm^3)	:	0.8-1.2	1.0	5
Organic carbon (%)	:	0.8-3.5	1.9	4
pH water	:	4.9-5.6	5.2	5
pH $CaCl_2$	:	4.0-4.9	4.5	5
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	47-71	62	5
dominant sand size		Very fine		
silt %	:	25-44	32	5
clay %	:	3-10	6	5
Hydraulic conductivity (cm/h)	:	5.9-12.3	9.1	5
Bulk density (g/cm^3)	:	1.1-1.4	1.2	5
pH water	:	4.8-5.5	5.1	4
pH $CaCl_2$	:	4.2-5.1	4.6	4
Consistence	:	Friable		

Features differentiating Hansford soils

HFD23: 20 to 50 cm of friable coarse loamy-gravelly soil over firm coarse loamy-gravelly soil.
HFD52: 50 to 80 cm of friable coarse loamy soil over firm coarse loamy-gravelly soil.
HFD53: 50 to 80 cm of friable coarse loamy-gravelly soil over firm coarse loamy-gravelly soil.
HFD83: greater than 80 cm of coarse loamy-gravelly soil.

Compound map units

HFD83=SHN53	HFD83>HTP53	HBT86=HFD83*
HFD83>SGL53	HFD83>SHN53	MRW87>HFD83*
SHN53>HFD83*		

HFD83-SGL53: Springhill (SGL) soils are found in low areas and depressions while Hansford soils are found on the upper slope and crests. Hansford-Springhill map units are found on North Mountain on map sheets from South Scots Bay to Douglas Road and around Granville Centre. Map units are also found on the Greenfield, Prospect and Harmony map sheets on South Mountain (Fig.1).

HFD83-SHN53: South Alton (SHN) soils are usually found in the upper slopes and crests where rock outcrops are prominent while Hansford soils are found on the lower slopes and on level topography. Hansford-South Alton map units are found on both North and South Mountain map sheets east of Kingston and on the Deep Brook map sheet (Fig.1).

HFD83-HTP53: Hantsport (HTP) soils occur in depressions and on the lower slopes. Hansford soils are found on the upper slopes. Hansford-Hantsport map units are found on the Melanson, Newtonville and South Alton map sheets on South Mountain. Units are also found on the Forest Glade and Blomidon map sheets of North Mountain (Fig.1). Hansford soils have a higher than average clay content when mapped with Hantsport soils.

HFD83 map units

Hansford 83 map units are located on most map sheets on North Mountain. On South Mountain, they are found between Hantsport and Harmony and on the Deep Brook map sheet (Fig.1).

Between Bridgetown and Lequille, Hansford soils have lenses of sandy-gravelly material. These lenses are particularly noticeable when Hansford soils are associated with Hebert soils.

Lenses of loamy-skeletal soil are found in Hansford 83 soils when they are associated with Morristown map units.

The Hansford 83 map units include MRW53 soils.

HANTSPORT 22 SOILS (HTP22)

Lower soil material and landform

Lower soil material	: Fine loamy-gravelly till
Slope (range; mean)	: 3.0 to 22.0%; 6.0%
Drainage	: Imperfect
Stoniness (range; mean)	: Nonstony to slightly stony; nonstony
Rockiness	: Nonrocky
Depth to constricting layer (range; mean)	: 24 to 48 cm; 45 cm
Kind of constricting layer	: Compact till

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	16-28	22	31
Particle size				
sand %	:	-----	57	1
dominant sand size		Very fine		
silt %	:	-----	29	1
clay %	:	-----	14	1
Hydraulic conductivity (cm/h)	:	0.1-6.4	1.7	5
Bulk density (g/cm^3)	:	1.4-1.5	1.5	5
Organic carbon (%)	:	-----	0.2	1
pH water	:	5.9-6.6	6.2	2
pH $CaCl_2$	:	5.2-5.9	5.5	2
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	15-34	23	31
Particle size				
sand %	:	50-62	56	2
dominant sand size		Fine		
silt %	:	28-30	29	2
clay %	:	10-17	14	2
Hydraulic conductivity (cm/h)	:	0.0-6.3	1.3	5
Bulk density (g/cm^3)	:	1.7-1.8	1.7	5
Organic carbon (%)	:	-----	0.2	1
pH water	:	-------	5.0	1
pH $CaCl_2$	:	-------	4.1	1
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	33-51	43	9
dominant sand size		Fine		
silt %	:	30-40	33	9
clay %	:	19-31	24	9
Hydraulic conductivity (cm/h)	:	0.0-0.1	0.1	5
Bulk density (g/cm^3)	:	1.7-1.8	1.8	5
pH water	:	4.7-7.6	5.9	9
pH $CaCl_2$	:	3.8-6.7	5.2	9
Consistence	:	Firm		

Features differentiating Hantsport soils

HTP22: 20 to 50 cm of friable coarse loamy soil over firm fine loamy-gravelly soil.
HTP23: 20 to 50 cm of friable coarse loamy-gravelly soil over firm fine loamy-gravelly soil.
HTP53: 50 to 80 cm of friable coarse loamy-gravelly soil over firm fine loamy-gravelly soil.

HTP22 map units

Hantsport 22 map units are not common and only occur on the Centre Burlington and Deep Brook map sheets (Fig. 1).

The surface material of HTP22 soils on the Centre Burlington map sheet have a higher than average clay content.

Inclusions of HTP20 and HTP21 soils are found in Hantsport 22 map units.

HANTSPORT 23 SOILS (HTP23)

Lower soil material and landform

Lower soil material	: Fine loamy-gravelly till
Slope (range; mean)	: 1.0 to 18.0%; 5.0%
Drainage	: Imperfect
Stoniness (range; mean)	: Nonstony to very stony; nonstony
Rockiness	: Nonrocky
Depth to constricting layer (range; mean)	: 14 to 50 cm; 46 cm
Kind of constricting layer	: Compact till

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	9-31	21	113
Particle size				
sand %	:	39-63	50	7
dominant sand size		Fine		
silt %	:	31-51	39	7
clay %	:	4-17	11	7
Hydraulic conductivity (cm/h)	:	0.0-11.1	1.2	20
Bulk density (g/cm^3)	:	0.8-1.4	1.1	20
Organic carbon (%)	:	0.6-5.4	3.0	6
pH water	:	4.2-6.6	5.2	8
pH $CaCl_2$	:	3.5-6.2	4.7	8
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	15-36	25	113
Particle size				
sand %	:	40-62	53	9
dominant sand size		Fine		
silt %	:	23-47	34	9
clay %	:	5-17	14	9
Hydraulic conductivity (cm/h)	:	0.0-2.2	0.2	20
Bulk density (g/cm^3)	:	1.6-1.8	1.7	20
Organic carbon (%)	:	0.4-2.2	1.0	6
pH water	:	4.4-5.7	5.2	9
pH $CaCl_2$	:	3.9-4.9	4.5	9
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	34-63	45	23
dominant sand size		Fine		
silt %	:	17-38	31	23
clay %	:	19-31	24	23
Hydraulic conductivity (cm/h)	:	0.0-0.3	0.1	25
Bulk density (g/cm^3)	:	1.6-1.9	1.8	25
pH water	:	5.1-8.3	5.9	23
pH $CaCl_2$	:	3.9-7.2	5.0	23
Consistence	:	Firm		

Features differentiating Hantsport soils

HTP22: 20 to 50 cm of friable coarse loamy soil over firm fine loamy-gravelly soil.
HTP23: 20 to 50 cm of friable coarse loamy-gravelly soil over firm fine loamy-gravelly soil.
HTP53: 50 to 80 cm of friable coarse loamy-gravelly soil over firm fine loamy-gravelly soil.

Compound map units

HTP23=MHO23	HTP23>HTP53	HTP23>WOB53
HTP23>MHO23	HTP23>SHN23	SHN53>HTP23*

HTP23-MHO23: Mahone (MHO) soils are found in depressions and low areas while the Hantsport soils are found on the upper slopes and crests. Hantsport-Mahone map units are found at the eastern end of the survey area between Hantsport and Newtonville. Units also are found on North Mountain on the Harbourville map sheet (Fig.1).

HTP23-HTP53: Hantsport 23 (HTP23) soils are located on crests and upper slope positions while Hantsport 53 soils are found on the lower slopes. Hantsport 23/53 map units are found from Greenfield to Melanson (Fig.1)

HTP23-WOB53: Woodbourne (WOB) soils are located on the upper slopes and crests of the map unit while Hantsport soils are located on the lower slopes and in depressions. Hantsport-Woodbourne map units are found on map sheets from Hantsport to Newtonville. Some units are also located on the Harbourville map sheet on North Mountain.

HTP23-SHN23: South Alton (SHN) and Hantsport soils are usually randomly mixed in the map unit. However, South Alton soils tend to be more prevalent on upper slopes of the map unit where rock outcrops are more common. Hantsport-South Alton map units are found on South Mountain on the Melanson, Canaan and South Alton map sheets and on North Mountain on the Clarence East map sheet. South Alton soils have a higher than average clay content and occasionally a compact till layer above the bedrock when mapped with Hantsport soils.

HTP23 map units

Hantsport 23 map units are located on map sheets from Hantsport to Melanson to South Alton on South Mountain. Also, units are found on North Mountain on the South Scots Bay, Harbourville, North Kingston, Victoria Vale and Clarence East map sheets (Fig. 1).

Hantsport soils have a lower than average clay content when adjacent to Springhill map units.

The Hantsport 23 map units include minor inclusions of HTP20 and HTP21 soils.

HANTSPORT 53 SOILS (HTP53)

Lower soil material and landform

Lower soil material	: Fine loamy-gravelly till
Slope (range; mean)	: 1.5 to 15.0%; 5.0%
Drainage	: Imperfect
Stoniness (range; mean)	: Nonstony to very stony; nonstony
Rockiness	: Nonrocky
Depth to constricting layer (range; mean)	: 50 to 85 cm; 56 cm
Kind of constricting layer	: Compact till

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	14-39	23	229
Particle size				
sand %	:	38-52	46	4
dominant sand size		Very fine		
silt %	:	33-44	41	4
clay %	:	11-17	14	4
Hydraulic conductivity (cm/h)	:	0.1-8.3	2.5	5
Bulk density (g/cm^3)	:	1.0-1.4	1.2	5
Organic carbon (%)	:	-----	4.1	1
pH water	:	4.8-6.6	5.6	4
pH $CaCl_2$	:	4.3-5.9	5.1	4
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	12-63	33	229
Particle size				
sand %	:	44-69	56	5
dominant sand size		Fine		
silt %	:	22-39	32	5
clay %	:	10-17	12	5
Hydraulic conductivity (cm/h)	:	0.0-0.2	0.1	10
Bulk density (g/cm^3)	:	1.4-1.8	1.6	10
Organic carbon (%)	:	-----	1.5	1
pH water	:	5.0-6.4	5.6	5
pH $CaCl_2$	:	4.3-5.7	4.8	5
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	33-55	45	22
dominant sand size		Fine		
silt %	:	24-43	33	22
clay %	:	18-34	23	22
Hydraulic conductivity (cm/h)	:	0.0-0.5	0.1	10
Bulk density (g/cm^3)	:	1.7-1.9	1.8	10
pH water	:	5.0-6.9	5.8	23
pH CaCl2	:	3.8-5.9	4.8	23
Consistence	:	Firm		

Features differentiating Hantsport soils

HTP22: 20 to 50 cm of friable coarse loamy soil over firm fine loamy-gravelly soil.
HTP23: 20 to 50 cm of friable coarse loamy-gravelly soil over firm fine loamy-gravelly soil.
HTP53: 50 to 80 cm of friable coarse loamy-gravelly soil over firm fine loamy-gravelly soil.

Compound map units

HTP53=MHO23	HTP53=WOB53	HFD83>HTP53*
HTP53>MHO23	HTP53>SHN53	HTP23>HTP53*
HTP53>WOB53	HFD53>HTP53*	WOB53>HTP53*

HTP53-MHO23: Mahone (MHO) soils are found in depressions and low areas while the Hantsport soils are found on the upper slopes and crests. Hantsport-Mahone map units are found on map sheets from Hantsport to Melanson and on the Forest Glade map sheet (Fig.1).

HTP53-WOB53: Woodbourne (WOB) soils are found on the upper slopes and crests of the map unit while the Hantsport soils are found on the lower slopes. Hantsport-Woodbourne map units are found on map sheets from Hantsport to Newtonville.

HTP53-SHN53: South Alton (SHN) and Hantsport soils are usually randomly mixed in the map unit. South Alton soils, however, tend to be prevalent on upper slopes where rock outcrops are common. Hantsport-South Alton map units are found on map sheets from Melanson to Greenfield on South Mountain. On North Mountain, they are found on the Harbourville map sheet. South Alton soils have a higher than average clay content and occasionally a compact till layer is found above the bedrock when mapped with Hantsport soils.

HTP53 map units

Hantsport 53 map units are located on map sheets from Avonport Station to Avondale. Some units are found on North Mountain on the Woodworth Creek, South Scots Bay, Harbourville, North Kingston, Forest Glade, Douglas Road and Victoria Vale map sheets (Figure 1).

At the eastern end of the survey area, the lower soil material of the Hantsport soils have a lower than average clay content.

The Hantsport 53 map units include minor inclusions of HTP50, HTP51 and HTP52 soils.

KINGSPORT 85 SOILS (KGP85)

Lower soil material and landform

Lower soil material	: Sandy glaciofluvial
Slope (range; mean)	: 0.5 to 4.0%; 2.5%
Drainage	: Imperfect
Stoniness (range; mean)	: Nonstony to slightly stony; nonstony
Rockiness	: Nonrocky

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	16-60	27	147
Particle size				
sand %	:	75-92	83	7
dominant sand size		Fine		
silt %	:	5-21	14	7
clay %	:	3-5	3	7
Hydraulic conductivity (cm/h)	:	1.0-18.2	6.3	20
Bulk density (g/cm^3)	:	0.9-1.2	1.1	20
Organic carbon (%)	:	0.2-5.3	2.1	7
pH water	:	3.8-5.0	4.6	7
pH $CaCl_2$	:	3.3-4.2	3.8	7
Consistence	:	Loose		

B horizon		Range	Mean	Number
Thickness (cm)	:	11-54	33	147
Particle size				
sand %	:	78-98	91	11
dominant sand size		Very coarse		
silt %	:	0-18	6	11
clay %	:	0-4	3	11
Hydraulic conductivity (cm/h)	:	0.1-16.6	3.4	15
Bulk density (g/cm^3)	:	0.8-1.4	1.2	15
Organic carbon (%)	:	0.2-4.6	1.9	6
pH water	:	4.3-5.9	5.0	11
pH $CaCl_2$	:	3.6-4.7	4.2	11
Consistence	:	Loose		

C horizon		Range	Mean	Number
Particle size				
sand %	:	83-99	94	10
dominant sand size		Very coarse		
silt %	:	0-9	3	10
clay %	:	1-8	3	10
Hydraulic conductivity (cm/h)	:	0.1-11.1	2.7	10
Bulk density (g/cm^3)	:	1.0-1.4	1.3	10
pH water	:	4.4-6.6	5.4	10
pH $CaCl_2$	:	4.0-6.1	4.8	10
Consistence	:	Loose		

Compound map units

KGP85>MLL85 CNW85>KGP85*

KGP85-MLL85: Millar (MLL) soils are found in depressions and low areas of the map unit while Kingsport soils are located on the level and upper slope areas. Kingsport-Millar map units are located on the Prospect, North Grand Pre, Kingsport, Kinsman Corner, Grafton, Centreville, Middleton and Lawrencetown E map sheets (Fig. 1).

KGP85 map units

Kingsport 85 map units are found throughout the valley floor and are usually located adjacent to Cornwallis map units.

Kingsport soils found along the base of South Mountain may contain layers of sandy-gravelly material. Kingsport soils found on the Centreville and Pereau map sheets contain fine

sandy lenses while those on the Kinsman Corner and Grand Pre map sheets have pockets of coarse loamy material in the surface horizon.

The Kingsport 85 map units include minor inclusions of KGPX5, KGP56 and KGP52 soils.

KINGSVILLE 20 SOILS (KSV20)

Lower soil material and landform

Lower soil material	: Fine loamy till
Slope (range; mean)	: 1.0 to 8.0%; 2.0%
Drainage	: Poor
Stoniness (range; mean)	: Nonstony to very stony; nonstony
Rockiness (range)	: Nonrocky
Depth to constricting layer (range; mean)	: 20 to 50 cm; 44 cm
Kind of constricting layer	: Compact till

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	12-41	22	72
Particle size				
sand %	:	-----	40	1
dominant sand size		Very coarse		
silt %	:	-----	39	1
clay %	:	-----	21	1
Organic carbon (%)	:	-----	3.3	1
pH water	:	-----	4.8	1
pH $CaCl_2$	:	-----	4.2	1
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	11-50	22	72
Particle size				
sand %	:	3-44	27	5
dominant sand size		Very fine		
silt %	:	35-53	42	5
clay %	:	22-43	31	5
Hydraulic conductivity (cm/h)	:	0.0-0.7	0.1	10
Bulk density (g/cm^3)	:	1.7-1.9	1.8	10
Organic carbon (%)	:	0.3-0.6	0.5	4
pH water	:	5.2-6.5	6.0	5
pH $CaCl_2$	:	4.4-6.0	5.4	5
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	4-39	21	8
dominant sand size		Very fine		
silt %	:	37-61	49	8
clay %	:	20-39	30	8
Hydraulic conductivity (cm/h)	:	0.0-0.1	0.1	15
Bulk density (g/cm^3)	:	1.7-1.9	1.8	15
pH water	:	4.8-7.4	6.2	8
pH $CaCl_2$	:	4.2-6.5	5.6	8
Consistence	:	Firm		

Features differentiating Kingsville soils

KSV20: 20 to 50 cm of friable fine loamy soil over firm fine loamy soil.
KSV22: 20 to 50 cm of friable coarse loamy soil over firm fine loamy soil.

Compound map units

KSV20=QUE20 QUE20>KSV20*

KSV20-QUE20: Queens (QUE) soils are found on the upper slope areas while Kingsville soils are found in depressions and seepage areas. With the exception of the Nictaux Falls map sheet, Kingsville-Queens map units are found on the escarpment of North Mountain on the Brooklyn, North Kingston, Grafton, Centreville and Woodside map sheets (Fig. 1).

KSV20 map units

Kingsville 20 map units are located on the valley floor.

Kingsville 20 soils on the Avondale map sheet may have pockets of fine loamy-gravelly soil in the lower soil material. Kingsville 20 soils found in the western end of the survey area have coarse loamy and coarse loamy-gravelly layers in the surface material. These layers are common when KSV20 soils are associated with Debert-Masstown and Springhill-Economy map units.

Kingsville 20 map units include minor inclusions of KSV50, KSV21 and KSV51 soils.

KINGSVILLE 22 SOILS (KSV22)

Lower soil material and landform

Lower soil material	: Fine loamy till
Slope (range; mean)	: 0.5 to 15.0%; 3.0%
Drainage	: Poor
Stoniness (range; mean)	: Nonstony to moderately stony; nonstony
Rockiness	: Nonrocky
Depth to constricting layer (range; mean)	: 32 to 50 cm; 46 cm
Kind of constricting layer	: Compact till

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	12-35	21	86
Particle size				
sand %	:	42-56	49	3
dominant sand size		Very fine		
silt %	:	40-52	45	3
clay %	:	5-9	6	3
Hydraulic conductivity (cm/h)	:	0.0-4.7	0.8	10
Bulk density (g/cm^3)	:	1.2-1.4	1.2	10
Organic carbon (%)	:	2.3-3.1	2.7	2
pH water	:	5.3-6.4	5.8	3
pH $CaCl_2$	:	4.4-5.9	5.2	3
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	4-45	25	86
Particle size				
sand %	:	36-54	45	3
dominant sand size		Very fine		
silt %	:	31-47	39	3
clay %	:	15-17	16	3
Hydraulic conductivity (cm/h)	:	0.0-0.5	0.1	5
Bulk density (g/cm^3)	:	1.4-1.6	1.5	5
Organic carbon (%)	:	0.4-0.9	0.7	2
pH water	:	5.2-6.7	6.0	3
pH $CaCl_2$	:	4.3-6.2	5.3	3
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	31-42	36	3
dominant sand size		Fine		
silt %	:	32-47	38	3
clay %	:	19-32	26	3
Hydraulic conductivity (cm/h)	:	0.0-0.1	0.1	10
Bulk density (g/cm^3)	:	1.6-1.8	1.7	10
pH water	:	5.8-7.1	6.4	3
pH $CaCl_2$	:	5.1-6.7	5.7	3
Consistence	:	Firm		

Features differentiating Kingsville soils

KSV20: 20 to 50 cm of friable fine loamy soil over firm fine loamy soil.
KSV22: 20 to 50 cm of friable coarse loamy soil over firm fine loamy soil.

Compound map units

KSV22=QUE22 QUE22>KSV22* QUE52>KSV22*

KSV22-QUE22: Queens (QUE) soils are found on the upper slopes while Kingsville soils are found in depressions and seepage areas. The Kingsville-Queens map units are located mainly at the base of North Mountain on the Centreville, Lawrencetown W, Kinsman Corner and Pereau map sheets. Some map units are located between Avondale and Center Burlington (Fig.1).

KSV22 map units

The majority of Kingsville 22 map units are found on the valley floor between Middleton and Paradise. Other map units occur near Centrelea and around Windsor (Fig. 1).

When the units are found adjacent to Masstown or Debert map units, they contain pockets of coarse loamy till in their lower soil material. On the Middleton map sheet, the depth to the compact layer is deeper than average while in the Windsor area, the surface material has a higher than average coarse fragment content.

Kingsville 22 map units include minor inclusions of KSV52 and KSV23 soils.

LAWRENCETOWN 52 SOILS (LWR52)

Lower soil material and landform

Lower soil material	: Fine loamy lacustrine
Slope (range; mean)	: 1.0 to 4.0%; 2.0%
Drainage	: Poor
Stoniness	: Nonstony
Rockiness	: Nonrocky
Depth to contrasting layer (range; mean)	: 50 to 61 cm; 57 cm
Kind of contrasting layer	: Variation in particle size

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	13-30	24	4
Particle size				
sand %	:	49-50	49	2
dominant sand size		Very fine		
silt %	:	31-41	36	2
clay %	:	9-20	15	2
Hydraulic conductivity (cm/h)	:	0.0-0.1	0.1	5
Bulk density (g/cm^3)	:	1.5-1.7	1.6	5
Organic carbon (%)	:	-----	0.6	1
pH water	:	6.9-7.7	7.3	2
pH $CaCl_2$	:	4.9-6.7	5.8	2
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	14-32	23	4
Particle size				
sand %	:	35-70	53	2
dominant sand size		Very fine		
silt %	:	21-53	37	2
clay %	:	9-12	10	2
Hydraulic conductivity (cm/h)	:	0.0-0.1	0.1	5
Bulk density (g/cm^3)	:	1.6-1.8	1.7	5
Organic carbon (%)	:	-----	0.6	1
pH water	:	6.4-7.9	7.1	2
pH $CaCl_2$	:	5.9-6.5	6.2	2
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	27-32	30	2
dominant sand size			Very fine	
silt %	:	44-60	52	2
clay %	:	8-29	18	2
Hydraulic conductivity (cm/h)	:	0.0-0.1	0.1	5
Bulk density (g/cm^3)	:	1.5-1.8	1.7	5
pH water	:	7.4-7.9	7.7	2
pH $CaCl_2$	:	6.4-7.2	6.8	2
Consistence	:	Firm		

Features differentiating Lawrencetown soils

LWR52: 50 to 80 cm of friable coarse loamy soil over firm fine loamy soil.
LWR80: greater than 80 cm of firm fine loamy soil.

Compound map units

FSH52=LWR52* FSH52>LWR52*

LWR52 map units

Lawrencetown 52 map units are located on the North Kingston, Lawrencetown E, Lawrencetown W, Bridgetown, Centrelea and Deep Brook map sheets (Fig. 1).

Lawrencetown soils have a grayish color and a higher silt content than the fine loamy till soils. The upper soil material of the LWR52 soil can be stratified with individual layers ranging in particle size from fine sandy to fine loamy.

Lawrencetown 52 map units include minor inclusions of LWR22, LWR82, LWR55 and LWR54 soils.

LAWRENCETOWN 80 SOILS (LWR80)

Soil material and landform

Soil material	: Fine loamy lacustrine
Slope (range; mean)	: 0.5 to 3.0%; 2.0%
Drainage	: Poor
Stoniness	: Nonstony
Rockiness	: Nonrocky

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	16-38	23	62
Particle size				
sand %	:	12-18	15	2
dominant sand size		Fine		
silt %	:	56-58	57	2
clay %	:	26-29	28	2
Organic carbon (%)	:	-----	2.8	1
pH water	:	4.4-5.1	4.7	2
pH $CaCl_2$	:	3.9-4.7	4.3	2
Consistence	:	Friable to firm		

B horizon		Range	Mean	Number
Thickness (cm)	:	1-54	26	62
Particle size				
sand %	:	-----	7	1
dominant sand size		Fine		
silt %	:	-----	56	1
clay %	:	-----	37	1
Organic carbon (%)	:	-----	0.8	1
pH water	:	-----	4.8	1
pH $CaCl_2$	:	-----	4.2	1
Consistence	:	Friable to Firm		

C horizon		Range	Mean	Number
Particle size				
sand %	:	2-11	6	4
dominant sand size		Very fine		
silt %	:	43-73	59	4
clay %	:	18-49	35	4
pH water	:	4.8-6.3	5.5	3
pH $CaCl_2$	:	3.9-5.9	4.8	3
Consistence	:	Firm		

Features differentiating Lawrencetown soils

LWR52: 50 to 80 cm of friable coarse loamy soil over firm fine loamy soil.
LWR80: greater than 80 cm of firm fine loamy soil.

Compound map units

FSH80=LWR80* FSH80>LWR80*

LWR80 map units

Lawrencetown 80 map units are found in the west on the Bridgetown, Centrelea and Annapolis Royal map sheets. In addition, units are located on the North Kingston and Grand Pre map sheets (Fig. 1).

Lawrencetown 80 soils are stratified occasionally with individual layers ranging in particle size from fine sand to fine loamy. Lawrencetown 80 soils are often found in the same areas as Queens and Kingsville soils. Lawrencetown soils have a higher silt content and a lower bulk density in the C horizon than Queens and Kingsville soils.

METEGHAN 53 SOILS (MGA53)

Lower soil material and landform

Lower soil material	: Sandy-gravelly to sandy-skeletal glaciofluvial
Slope (range; mean)	: 0.5 to 2.0%; 1.5%
Drainage	: Poor
Stoniness (range; mean)	: Nonstony to very stony; nonstony
Rockiness	: Nonrocky
Depth to contrasting layer (range; mean)	: 50 to 80 cm; 54cm
Kind of contrasting layer	: Variation in particle size

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	12-36	23	11
Particle size				
sand %	:	-----	62	1
dominant sand size			Very fine	
silt %	:	-----	29	1
clay %	:	-----	9	1
Organic carbon (%)	:	-----	0.9	1
pH water	:	-----	4.6	1
pH $CaCl_2$	:	-----	3.4	1
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	23-52	31	11
Particle size				
sand %	:	-----	62	1
dominant sand size			Very fine	
silt %	:	-----	32	1
clay %	:	-----	6	1
Organic carbon (%)	:	-----	2.0	1
pH water	:	-----	4.5	1
pH $CaCl_2$	:	-----	4.0	1
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	-----	93	1
dominant sand size			Very coarse	
silt %	:	-----	3	1
clay %	:	-----	4	1
pH water	:	-----	5.0	1
pH $CaCl_2$	:	-----	4.0	1
Consistence	:	Loose		

MGA53 map units

Meteghan 53 map units are uncommon in the survey area. Units are found on the North Kingston, Nicholsville, Victoria Vale, Granville Centre and Prospect map sheets (Fig. 1).

Meteghan 53 map units include minor inclusions of MGA23 and MGA52 soils.

MAHONE 23 SOILS (MHO23)

Lower soil material and landform

Lower soil material	: Fine loamy-gravelly till
Slope (range; mean)	: 2.0 to 7.0%; 3.0%
Drainage	: Poor
Stoniness (range; mean)	: Nonstony to very stony; nonstony
Rockiness	: Nonrocky
Depth to constricting layer (range; mean)	: 31 to 50 cm; 47 cm
Kind of constricting layer	: Compact till

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	10-33	20	38
Particle size				
sand %	:	-----	39	1
dominant sand size			Very fine	
silt %	:	-----	45	1
clay %	:	-----	16	1
pH water	:	-----	6.1	1
$CaCl_2$	:	-----	5.5	1
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	13-46	27	38
Particle size				
sand %	:	-----	57	1
dominant sand size			Very fine	
silt %	:	-----	30	1
clay %	:	-----	13	1
pH water	:	-----	6.0	1
pH $CaCl_2$	:	-----	5.3	1
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	40-51	46	3
dominant sand size			Very fine	
silt %	:	28-35	31	3
clay %	:	21-25	23	3
pH water	:	5.4-5.9	5.6	3
pH $CaCl_2$	:	4.7-5.4	5.0	3
Consistence	:	Firm		

Compound map units

HTP23=MHO23*	HTP23>MHO23*
HTP53=MHO23*	HTP53>MHO23*

MHO23 map units

Mahone 23 map units are found between Greenfield and Avondale. Some units are found on the Centreville and West Glenmont map sheets (Fig. 1).

The C horizons of Mahone 23 soils have lower than average clay contents in the Hantsport area.

Mahone 23 map units include minor inclusions of MHO20, MHO21, MHO22, MHO50, MHO51, MHO52 and MHO53 soils.

MILLAR 85 SOILS (MLL85)

Lower soil material and landform

Lower soil material	: Sandy glaciofluvial
Slope (range; mean)	: 1.0 to 3.0%; 1.5%
Drainage	: Poor
Stoniness	: Nonstony
Rockiness	: Nonrocky

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	9-50	24	37
Particle size				
sand %	:	89-93	91	3
dominant sand size			Very coarse	
silt %	:	4-8	6	3
clay %	:	2-4	3	3
Organic carbon (%)	:	0.5-5.9	3.2	2
pH water	:	4.0-4.9	4.3	3
pH $CaCl_2$	:	3.2-3.9	3.5	3
Consistence	:	Loose		

B horizon		Range	Mean	Number
Thickness (cm)	:	20-66	33	37
Particle size				
sand %	:	89-96	92	2
dominant sand size			Very coarse	
silt %	:	2-8	5	2
clay %	:	2-3	3	2
Organic carbon (%)	:	-----	0.2	1
pH water	:	4.8-4.9	4.9	2
pH $CaCl_2$	:	3.8-3.9	3.9	2
Consistence	:	Loose		

C horizon		Range	Mean	Number
Particle size				
sand %	:	92-98	96	3
dominant sand size			Very coarse	
silt %	:	0-3	2	3
clay %	:	0-6	2	3
pH water	:	5.2-6.0	5.6	3
pH $CaCl_2$	:	3.9-5.2	4.4	3
Consistence	:	Loose		

Compound map units

KGP85>MLL85*

MLL85 map units

Millar 85 map units are found on the valley floor on map sheets west of Kingston and between Kentville and Pereau in the east. Units are also found on the Bishopville, Centreville, Nicholsville and North Grand Pre map sheets (Fig. 1).

Millar 85 soils contain lenses of fine sand when adjacent to Glenholme and Onslow soils. Pockets of coarse loamy soil are found in Millar soils when they are adjacent to Debert-Masstown map units.

Millar 85 map units include minor inclusions of MLL22, MLL54 and GNH55 soils.

MORRISTOWN 23 SOILS (MRW23)

Lower soil material and landform

Lower soil material	: Loamy-skeletal till
Slope (range; mean)	: 1.5 to 15.0%; 4.5%
Drainage (range; mean)	: Moderately well to well; well
Stoniness (range; mean)	: Nonstony to very stony; moderately stony
Rockiness	: Nonrocky
Depth to constricting layer (range; mean)	: 12 to 48 cm; 43 cm
Kind of constricting layer	: Compact till

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	12-29	20	37
Particle size				
sand %	:	-----	56	1
dominant sand size			Very coarse	
silt %	:	-----	36	1
clay %	:	-----	8	1
pH water	:	-----	6.4	1
pH $CaCl_2$	:	-----	5.8	1
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	15-43	23	37
Particle size				
sand %	:	-----	58	1
dominant sand size			Very coarse	
silt %	:	-----	35	1
clay %	:	-----	7	1
pH water	:	-----	5.6	1
pH $CaCl_2$	:	-----	4.8	1
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	-----	71	1
dominant sand size			Very coarse	
silt %	:	-----	25	1
clay %	:	-----	4	1
pH water	:	-----	5.3	1
pH $CaCl_2$	:	-----	4.1	1
Consistence	:	Firm		

Features Differentiating Morristown soils

MRW23: 20 to 50 cm of friable coarse loamy- gravelly soil over friable loamy-skeletal soil.
MRW87: greater than 80 cm of friable loamy-skeletal soil.

Compound map units

FAC23>MRW23*

MRW23 map units

With the exception of the North Kingston map sheet, Morristown 23 map units are found on South Mountain on the Newtonville, Canaan, Prospect and Nicholsville map sheets (Fig. 1).

Generally, the lower soil material of the Morristown 23 soils does not restrict root penetration. However, water and nutrient holding capacity of the lower soil is limited by a high coarse fragment content. Most Morristown 23 soils on the North Kingston map sheet have sandy-gravelly layers in the surface soil.

Morristown 23 map units include minor inclusions of MRW22 soil.

MORRISTOWN 87 SOILS (MRW87)

Lower soil material and landform

Lower soil material	: Loamy-skeletal till
Slope (range; mean)	: 1.0 to 15.0%; 5.0%
Drainage (range; mean)	: Moderately well to well; well
Stoniness (range; mean)	: Nonstony to very stony; moderately stony
Rockiness (range)	: Nonrocky to slightly rocky; nonrocky

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	17-36	23	19
Particle size				
sand %	:	48-71	57	14
dominant sand size		Very fine		
silt %	:	25-45	37	14
clay %	:	1-15	6	14
Organic carbon (%)	:	5.3-8.8	6.8	4
pH water	:	4.3-6.0	5.2	14
pH $CaCl_2$	:	3.7-5.5	4.6	14
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	16-46	31	19
Particle size				
sand %	:	46-71	58	12
dominant sand size		Very fine		
silt %	:	26-48	37	12
clay %	:	2-10	5	12
Organic carbon (%)	:	2.3-3.8	3.1	4
pH water	:	4.2-6.0	5.3	13
pH $CaCl_2$	:	3.7-5.4	4.7	13
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	42-74	59	15
dominant sand size		Very fine		
silt %	:	14-92	34	15
clay %	:	0-17	7	15
pH water	:	4.8-5.8	5.4	15
pH $CaCl_2$	:	3.9-5.2	4.7	15
Consistence	:	Friable		

Features differentiating Morristown soils

MRW23: 20 to 50 cm of friable coarse loamy-gravelly soil over friable loamy-skeletal soil.
MRW87: greater than 80 cm of friable loamy-skeletal soil.

Compound map units

MRW87>FAC23 MRW87>HFD83

MRW87-FAC23: Factorydale (FAC) soils are located in low areas, depressions and drainage channels. Morristown soils are found on the upper slopes and crests. Map units are found on the Mount Hanley map sheet on North Mountain and on the Hantsport, Newtonville, Canaan, Prospect, Aylesford Lake and Harmony map sheets on South Mountain (Fig. 1).

MRW87-HFD83: Hansford (HFD) and Morristown soils are intermixed in the map unit although Morristown soils tend to occur on the upper slopes of the map unit. Morristown-Hansford map units are found along the South Mountain escarpment on the Hantsport, Newtonville, Aylesford Lake and Harmony map sheets (Fig.1).

MRW87 map units

On South Mountain, Morristown 87 map units are found on the Newtonville, Canaan, Prospect, Nicholsville, Aylesford Lake and Harmony map sheets. On North Mountain, they are found on map sheets from North Kingston to Mount Hanley (Fig. 1).

Morristown 87 soils in the North Kingston area contain sandy-gravelly lenses.

MASSTOWN 22 SOILS (MSW22)

Lower soil material and landform

Lower soil material	: Coarse loamy till
Slope (range; mean)	: 1.0 to 7.0%; 3.5%
Drainage	: Poor
Stoniness (range; mean)	: Nonstony to slightly stony; nonstony
Rockiness	: Nonrocky
Depth to constricting layer (range; mean)	: 10 to 49 cm; 41 cm
Kind of constricting layer	: Compact till

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	10-29	21	19
Particle size				
sand %	:	-----	52	1
dominant sand size			Very fine	
silt %	:	-----	39	1
clay %	:	-----	9	1
Hydraulic conductivity (cm/h)	:	0.1-3.9	1.4	5
Bulk density (g/cm^3)	:	0.7-0.8	0.8	5
Organic carbon (%)	:	-----	7.8	1
pH water	:	-----	5.2	1
pH $CaCl_2$	:	-----	4.6	1
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	13-26	20	19
Particle size				
sand %	:	-----	52	1
dominant sand size		Very fine		
silt %	:	-----	42	1
clay %	:	-----	6	1
Hydraulic conductivity (cm/h)	:	0.6-7.7	2.6	5
Bulk density (g/cm^3)	:	1.0-1.3	1.2	5
Organic carbon (%)	:	-----	2.9	1
pH water	:	-----	5.3	1
pH $CaCl_2$	:	-----	4.6	1
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	35-45	39	3
dominant sand size		Very fine		
silt %	:	47-50	49	3
clay %	:	8-15	12	3
Hydraulic conductivity (cm/h)	:	0.1-2.4	0.6	5
Bulk density (g/cm^3)	:	1.6-1.7	1.6	5
pH water	:	5.2-6.4	5.8	3
pH $CaCl_2$	:	4.0-5.8	4.8	3
Consistence	:	Firm		

Features differentiating Masstown soils

MSW22: 20 to 50 cm of friable coarse loamy soil over firm coarse loamy soil.
MSW52: 50 to 80 cm of friable coarse loamy soil over firm coarse loamy soil.
MSW82: greater than 80 cm of friable coarse loamy soil.

Compound map units

DRT22>MSW22* DRT52>MSW22*

MSW22 map units

Masstown 22 map units are found on the escarpment of North Mountain on the Forest Glade, Lawrencetown W, Mount Hanley and Centrelea map sheets. Units also are found on the Avondale and Centre Burlington map sheets (Fig. 1).

In the Lawrencetown area, when adjacent to Kingsville map units, the C horizons of Masstown soils contain lenses of fine loamy soil. When Masstown 22 map units are adjacent to fine loamy map units, their C horizons have higher than average clay contents. The clay contents of the C horizons are lower than average when associated with glaciofluvial map units.

Masstown 22 map units include minor inclusions of MSW20 and MSW23 soils.

MASSTOWN 52 SOILS (MSW52)

Lower soil material and landform

Lower soil material	: Coarse loamy till
Slope (range; mean)	: 1.0 to 6.0%; 2.5%
Drainage	: Poor
Stoniness (range; mean)	: Nonstony to slightly stony; nonstony
Rockiness	: Nonrocky
Depth to constricting layer (range; mean)	: 50 to 90 cm; 54 cm
Kind of constricting layer	: Compact till

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	12-34	23	38
Particle size				
sand %	:	58-69	64	2
dominant sand size		Fine		
silt %	:	26-31	29	2
clay %	:	4-12	8	2
Hydraulic conductivity (cm/h)	:	0.2-4.1	1.9	5
Bulk density (g/cm^3)	:	1.1-1.3	1.2	5
pH water	:	5.1-6.3	5.6	3
pH $CaCl_2$	:	4.1-5.8	4.8	3
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	8-59	31	38
Particle size				
sand %	:	-----	58	1
dominant sand size			Very coarse	
silt %	:	-----	28	1
clay %	:	-----	14	1
pH water	:	-----	5.1	1
pH $CaCl_2$	:	-----	3.9	1
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	46-77	63	7
dominant sand size		Fine		
silt %	:	13-47	26	7
clay %	:	7-17.9	11	7
Hydraulic conductivity (cm/h)	:	0.0-0.1	0.1	5
Bulk density (g/cm^3)	:	1.9-1.9	1.9	5
pH water	:	5.0-7.4	6.1	7
pH $CaCl_2$	:	4.2-6.0	5.1	7
Consistence	:	Firm		

Features differentiating Masstown soils

MSW22: 20 to 50 cm of friable coarse loamy soil over firm coarse loamy soil.
MSW52: 50 to 80 cm of friable coarse loamy soil over firm coarse loamy soil.
MSW82: greater than 80 cm of friable coarse loamy soil.

Compound map units

DRT52=MSW52* DRT52>MSW52*

MSW52 map units

Masstown 52 map units are located on the Centre Burlington, Bishopville, Kingsport, Pereau and Centreville map sheets in the east and on the Lawrencetown W, Bridgetown, Centrelea, Annapolis Royal and Paradise map sheets in the west (Fig. 1).

Masstown 52 soils found on the escarpment of North Mountain have fine loamy lenses in the C horizons and inclusions of fine loamy and coarse loamy-gravelly material in the surface horizons. Pockets of sand are found in the surface horizons of Masstown soils on the Kingsport map sheet. When Masstown soils are adjacent to fine loamy map units, their C horizons have higher than average clay contents. When associated with glaciofluvial map units, the clay content is lower than average.

Masstown 52 map units include minor inclusions of MSW50, MSW53 and MSW55 soils.

MASSTOWN 82 SOILS (MSW82)

Lower soil material and landform

Lower soil material	: Coarse loamy till
Slope (range; mean)	: 1.0 to 5.0%; 2.0%
Drainage	: Poor
Stoniness	: Nonstony
Rockiness	: Nonrocky

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	12-29	21	11
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	20-42	32	11
Consistence	:	Friable		

C horizon

Consistence	: Friable

Features differentiating Masstown soils

MSW22: 20 to 50 cm of friable coarse loamy soil over firm coarse loamy soil.
MSW52: 50 to 80 cm of friable coarse loamy soil over firm coarse loamy soil.
MSW82: greater than 80 cm of friable coarse loamy soil.

MSW82 map units

Masstown 82 map units are found between Bridgetown and Annapolis Royal (Fig. 1).

Masstown 82 soils contain lenses of sandy soil especially where found with Kingsport and Millar soils.

NEWTONVILLE 23 SOILS (NTV23)

Lower soil material and landform

Lower soil material	: Loamy-skeletal till
Slope (range; mean)	: 0.5 to 5.0%; 2.5%
Drainage	: Poor
Stoniness (range; mean)	: Nonstony to excessively stony; moderately stony
Rockiness (range; mean)	: Nonrocky to moderately rocky; nonrocky
Depth to constricting layer (range; mean)	: 10 to 50 cm; 41 cm
Kind of constricting layer	: Compact till

Profile characteristics

A horizon	Range	Mean	Number
Thickness (cm)	: 10-33	22	15
Consistence	: Friable		

B horizon	Range	Mean	Number
Thickness (cm)	: 15-37	19	15
Consistence	: Friable		

C horizon

Consistence	: Firm

Compound map units

FAC23=NTV23*

NTV23 map units

Other than the Harbourville and Forest Glade map sheets, Newtonville 23 map units are found only on South Mountain on the Prospect, Canaan, Newtonville, Aylesford Lake and Nictaux Falls map sheets (Fig. 1).

Occasionally, pockets of sandy-skeletal soil are found in Newtonville soils.

Newtonville 23 map units include minor inclusions of NTV22 and NTV53 soils.

ONSLOW 84 SOILS (OSW84)

Lower soil material and landform

Lower soil material	: Fine sandy glaciofluvial
Slope (range; mean)	: 1.0 to 12.0%; 3.0%
Drainage	: Imperfect
Stoniness	: Nonstony
Rockiness	: Nonrocky

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	15-50	25	64
Particle size				
sand %	:	-----	87	1
dominant sand size		Fine		
silt %	:	-----	9	1
clay %	:	-----	4	1
Organic carbon (%)	:	-----	7.1	1
pH water	:	-----	5.3	1
pH $CaCl_2$	:	-----	3.3	1
Consistence	:	Very friable to loose		

B horizon		Range	Mean	Number
Thickness (cm)	:	15-62	34	64
Particle size				
sand %	:	-----	83	1
dominant sand size		Fine		
silt %	:	-----	15	1
clay %	:	-----	2	1
Organic carbon (%)	:	-----	1.3	1
pH water	:	4.5-5.9	5.2	2
pH $CaCl_2$	:	3.8-5.1	4.5	2
Consistence	:	Very friable to loose		

C horizon		Range	Mean	Number
Particle size				
sand %	:	85-99	91	4
dominant sand size		Fine		
silt %	:	0-11	7	4
clay %	:	0-3	2	4
pH water	:	5.2-6.1	5.5	5
pH $CaCl_2$	:	3.5-5.4	4.5	5
Consistence	:	Loose		

Compound map units

TUO84>OSW84*

OSW 84 map units

Onslow 84 map units are found on the Kentville, Kingsport, Pereau, Kinsman Corner, Grafton, North Kingston, Kingston, Lawrencetown E, Lawrencetown W, Victoria Vale, Paradise and Centrelea map sheets (Fig. 1).

Onslow 84 map units include minor inclusions of OSWX5, DRT54 and OSW52 soils.

PUGWASH 52 SOILS (PGW52)

Lower soil material and landform

Lower soil material	: Coarse loamy till
Slope (range; mean)	: 0.5 to 20.0%; 4.0%
Drainage (range; mean)	: Moderately well to well; well
Stoniness (range; mean)	: Nonstony to moderately stony; nonstony
Rockiness	: Nonrocky
Depth to constricting layer (range; mean)	: 51 to 95 cm; 57 cm
Kind of constricting layer	: Compact till

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	7-55	26	440
Particle size				
sand %	:	35-77	58	42
dominant sand size		Fine		
silt %	:	17-49	32	42
clay %	:	1-17	9	42
Hydraulic conductivity (cm/h)	:	0.0-19.9	2.5	50
Bulk density (g/cm^3)	:	0.8-1.6	1.3	50
Organic carbon (%)	:	1.3-5.8	3.4	12
pH water	:	3.8-7.3	5.4	42
pH $CaCl_2$	:	3.7-6.6	4.8	42
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	10-62	31	440
Particle size				
sand %	:	24-77	60	40
dominant sand size		Fine		
silt %	:	18-67	31	40
clay %	:	4-17	9	40
Hydraulic conductivity (cm/h)	:	0.0-11.1	1.6	65
Bulk density (g/cm^3)	:	0.9-1.8	1.4	65
Organic carbon (%)	:	0.3-2.4	1.3	12
pH water	:	4.5-6.3	5.3	40
pH $CaCl_2$	:	3.6-5.4	4.5	40
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	28-76	58	88
dominant sand size		Fine		
silt %	:	14-59	31	88
clay %	:	4-17	11	88
Hydraulic conductivity (cm/h)	:	0.0-0.9	0.3	55
Bulk density (g/cm^3)	:	1.6-1.9	1.7	55
pH water	:	4.3-7.0	5.3	88
pH $CaCl_2$	:	3.4-6.1	4.5	88
Consistence	:	Firm		

Features differentiating Pugwash soils

PGW52: 50 to 80 cm of friable coarse loamy soil over firm coarse loamy soil.
PGW82: greater than 80 cm of friable coarse loamy soil.

Compound map units

PGW52=QUE22	PGW52>CNW85	PGW52>DRT22
PGW52>DRT52	PGW52>QUE22	CNW85=PGW52*
CNW85>PGW52*	DRT22=PGW52*	DRT52=PGW52*
DRT52>PGW52*		

PGW52-QUE22: Queens (QUE) soils are located on level and low areas and Pugwash soils are found on the upper slopes. Pugwash-Queens map units are found on the escarpment of North Mountain from Welsford to Blomidon. Some map units are located on the Forest Glade map sheet (Fig.1).

PGW52-CNW85: Cornwallis (CNW) soils are found on the upper slopes and crests and Pugwash soils are found on the lower slopes. Pugwash-Cornwallis map units are located on the valley floor from Kinsman Corner to Kingsport and in the Bridgetown to Tupper Brook area (Fig. 1). Pugwash soils in this map unit have a higher than average sand content. In the Tupper Brook area, some Cornwallis soils have a coarse loamy surface layer.

PGW52-DRT: Debert (DRT) soils are found in the low areas and depressions and Pugwash soils are located on the upper slopes. Pugwash-Debert map units are found along the base of North Mountain from Dempsey Corner to South Scots Bay. Units are also found on the Bishopville, Melanson, North Grand Pre, Kentville North, Kingsport, Victoria Vale, Paradise and Centrelea map sheets (Fig.1).

PGW52 map units

Pugwash 52 map units are found on map sheets east of Victoria Vale and west of Bridgetown (Fig. 1).

Pugwash 52 soils contain a higher than average silt content and finer grades of sand on the escarpment of North Mountain. The particle size of the lower soil material is occasionally coarse silty.

Pugwash 52 map units include minor inclusions of PGW22, PGW23 and PGW53 soils.

PUGWASH 82 SOILS (PGW82)

Lower soil material and landform

Lower soil material	: Coarse loamy till
Slope (range; mean)	: 0.5 to 15.0%; 3.0%
Drainage	: Well
Stoniness (range; mean)	: Nonstony to moderately stony; nonstony
Rockiness	: Nonrocky

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	15-42	26	101
Particle size				
sand %	:	52-71	61	7
dominant sand size		Fine		
silt %	:	21-40	31	7
clay %	:	6-11	8	7
Hydraulic conductivity (cm/h)	:	0.0-4.5	0.6	20
Bulk density (g/cm^3)	:	1.0-1.5	1.2	20
Organic carbon (%)	:	2.9-3.4	3.2	4
pH water	:	4.7-7.3	4.9	10
pH $CaCl_2$	:	3.7-6.9	4.2	10
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	14-58	35	101
Particle size				
sand %	:	42-73	62	10
dominant sand size		Fine		
silt %	:	18-51	30	10
clay %	:	6-12	8	10
Hydraulic conductivity (cm/h)	:	0.1-7.7	1.0	20
Bulk density (g/cm^3)	:	1.3-1.9	1.5	20
Organic carbon (%)	:	0.2-1.6	1.0	4
pH water	:	5.0-5.6	5.2	10
pH $CaCl_2$	:	4.2-5.3	4.5	10
Consistence	:	Friable		

C horizon	Range	Mean	Number
Particle size			
sand %	: 55-77	68	5
dominant sand size	Fine		
silt %	: 16-37	25	5
clay %	: 5-17	7	5
Hydraulic conductivity (cm/h)	: 0.0-0.8	0.4	20
Bulk density (g/cm^3)	: 1.4-1.7	1.6	20
pH water	: 5.0-5.9	5.3	5
pH $CaCl_2$	: 3.8-5.5	4.3	5
Consistence	: Friable		

Features differentiating Pugwash soils

PGW52: 50 to 80 cm of friable coarse loamy soil over firm coarse loamy soil.
PGW82: greater than 80 cm of friable coarse loamy soil.

Compound map units

PGW82>TUO84 CNW85=PGW82*

PGW82-TUO84: Truro (TUO) and Pugwash soils are generally randomly mixed in the map unit. Pugwash-Truro map units are found in the east from Kinsman Corner to Blomidon. Units are also found on the Annapolis Royal, Nicholsville and Vernon Mines map sheets (Fig. 1).

PGW82 map units

Pugwash 82 map units are located east of Kinsman Corner on the Nicholsville, Lawrencetown, Victoria Vale, Bridgetown, Granville Centre and Annapolis Royal map sheets (Fig. 1).

Pugwash 82 soils on the escarpment of South Mountain contain pockets of sand, sandy-gravelly and coarse loamy-gravelly material. Pugwash 82 soils on the valley floor contain pockets of fine sandy and fine loamy material.

Pugwash 82 map units include minor inclusions of PGW53, PGW54 and PGW55 soils.

QUEENS 20 SOILS (QUE20)

Lower soil material and landform

Lower soil material	: Fine loamy till
Slope (range; mean)	: 0.5 to 25.0%; 4.0%
Drainage	: Imperfect
Stoniness (range; mean)	: Nonstony to very stony; nonstony
Rockiness	: Nonrocky
Depth to constricting layer (range; mean)	: 20 to 50 cm; 48 cm
Kind of constricting layer	: Compact till

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	10-45	23	329
Particle size				
sand %	:	26-43	32	6
dominant sand size		Very fine		
silt %	:	36-54	45	6
clay %	:	20-28	23	6
Hydraulic conductivity (cm/h)	:	0.0-8.0	0.9	10
Bulk density (g/cm^3)	:	1.3-1.6	1.4	10
Organic carbon (%)	:	1.7-3.1	2.5	6
pH water	:	4.5-6.3	5.7	6
pH $CaCl_2$	:	3.5-6.0	5.1	6
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	8-54	25	329
Particle size				
sand %	:	10-43	27	9
dominant sand size		Very fine		
silt %	:	31-62	44	9
clay %	:	22-37	29	9
Hydraulic conductivity (cm/h)	:	0.0-14.9	1.9	10
Bulk density (g/cm^3)	:	1.5-1.6	1.5	10
Organic carbon (%)	:	0.5-1.6	0.8	6
pH water	:	4.3-6.9	5.6	9
pH $CaCl_2$	:	3.4-6.4	4.9	9
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	2-41	23	15
dominant sand size		Very fine		
silt %	:	33-63	46	15
clay %	:	24-45	31	15
Hydraulic conductivity (cm/h)	:	0.0-15.7	1.2	15
Bulk density (g/cm^3)	:	1.7-1.8	1.7	15
pH water	:	4.5-8.5	6.1	15
pH $CaCl_2$	:	3.7-6.5	5.3	15
Consistence	:	Firm		

Features differentiating Queens soils

QUE20: 20 to 50 cm of friable fine loamy soil over firm fine loamy soil.
QUE22: 20 to 50 cm of friable coarse loamy soil over firm fine loamy soil.
QUE52: 50 to 80 cm of friable coarse loamy soil over firm fine loamy soil.

Compound map units

QUE20>FUH22
KSV20=QUE20*

QUE20>KSV20
KSV22=QUE20*

QUE20-FUH22: Falmouth (FUH) soils are found on the upper slopes and crests and Queens soils are found on lower slopes and in depressions. Queens-Falmouth map units are found on the escarpment of North Mountain on the Grafton, North Kingston, Brooklyn and Clarence East map sheets (Fig. 1).

KSV20-QUE20: Kingsville (KSV) soils are found in low areas and depressions and Queens soils are found on the upper slopes. Queens-Kingsville map units are found on the escarpment of North Mountain west of the Lawrencetown E map sheet. Some units are also located on the Woodside map sheet (Fig. 1).

QUE20 map units

Queens 20 map units are common on most map sheets on the escarpment of North Mountain from Pereau to Centrelea. Some map units are scattered on the valley floor map sheets and some are found on the Nicholsville map sheet on the South Mountain (Fig. 1).

The differences between Queens 20 soils and Fash 80 soils are very slight. Queens 20 soils tend to have a lower silt content and higher bulk density in their C horizons than Fash 80 soils. Queens 20 soils that occur on the slopes of the North Mountain have pockets of fine loamy-gravelly material in the surface horizon.

Queens 20 map units include minor inclusions of QUE21 and FUH20 soils.

QUEENS 22 SOILS (QUE22)

Lower soil material and landform

Lower soil material	: Fine loamy till
Slope (range; mean)	: 0.5 to 14.0%; 4.0%
Drainage	: Imperfect
Stoniness (range; mean)	: Nonstony to moderately stony; nonstony
Rockiness	: Nonrocky
Depth to constricting layer (range; mean)	: 16 to 50 cm; 47 cm
Kind of constricting layer	: Compact till

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	12-40	22	422
Particle size				
sand %	:	41-70	53	17
dominant sand size		Fine		
silt %	:	25-53	38	17
clay %	:	4-17	9	17
Hydraulic conductivity (cm/h)	:	0.0-33.2	4.2	30
Bulk density (g/cm^3)	:	1.0-1.5	1.3	30
Organic carbon (%)	:	1.8-5.1	3.0	8
pH water	:	4.9-6.5	5.6	16
pH $CaCl_2$	:	4.3-6.1	5.0	16
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	11-48	25	422
Particle size				
sand %	:	34-74	58	12
dominant sand size		Fine		
silt %	:	19-49	30	12
clay %	:	4-17	12	12
Hydraulic conductivity (cm/h)	:	0.1-15.2	1.2	15
Bulk density (g/cm^3)	:	1.4-1.7	1.6	15
Organic carbon (%)	:	0.2-1.6	0.6	9
pH water	:	4.6-6.4	5.6	12
pH $CaCl_2$	:	3.9-5.7	4.7	12
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	5-54	34	24
dominant sand size		Very fine		
silt %	:	26-65	40	24
clay %	:	19-37	26	24
Hydraulic conductivity (cm/h)	:	0.0-7.7	0.3	35
Bulk density (g/cm^3)	:	1.7-1.9	1.8	35
pH water	:	4.2-7.0	5.9	22
pH $CaCl_2$	:	3.3-6.2	5.1	22
Consistence	:	Firm		

Features differentiating Queens soils

QUE20: 20 to 50 cm of friable fine loamy soil over firm fine loamy soil.
QUE22: 20 to 50 cm of friable coarse loamy soil over firm fine loamy soil.
QUE52: 50 to 80 cm of friable coarse loamy soil over firm fine loamy soil.

Compound map units

QUE22>FUH52	QUE22>KSV22	DRT22=QUE22*
DRT52=QUE22*	DRT52>QUE22*	FUH22=QUE22*
FUH22>QUE22*	FUH52>QUE22*	KSV22=QUE22*
PGW52=QUE22*	PGW52>QUE22*	

QUE22-FUH52: Falmouth (FUH) soils are found on the upper slopes and crests and Queens soils are found on the lower slopes and level areas. With the exception of the Avonport Station, Canaan and Newtonville map sheets, Queens-Falmouth map units are found on the escarpment of North Mountain on map sheets between Woodworth Creek and Clarence East (Fig. 1).

QUE22-KSV22: Kingsville (KSV) soils are found in low areas and depressions and Queens soils are found on the upper slopes. Queens-Kingsville map units are found on the escarpment of North Mountain on map sheets from Grafton to Bridgetown. Some map units are also found on map sheets from Hantsport to Avonport Station and on the valley floor on the Lawrencetown and Paradise map sheets (Fig. 1).

QUE22 map units

Queens 22 map units are found throughout the survey area with the largest areas occurring between the Middleton and Paradise map sheets in the west and on the Avondale, Centre Burlington and Bishopville map sheets in the east (Fig. 1).

Queens 22 map units found on the escarpment of North and South Mountain contain pockets of coarse loamy-gravelly in the surface horizon.

Queens 22 map units include minor inclusions of QUE23 soil.

QUEENS 52 SOILS (QUE52)

Lower soil material and landform

Lower soil material	: Fine loamy till
Slope (range; mean)	: 0.5 to 18.0%; 4.0%
Drainage	: Imperfect
Stoniness (range; mean)	: Nonstony to very stony; nonstony
Rockiness	: Nonrocky
Depth to constricting layer (range; mean)	: 50 to 80 cm; 57 cm
Kind of constricting layer	: Compact till

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	10-42	24	364
Particle size				
sand %	:	36-64	50	17
dominant sand size		Very fine		
silt %	:	26-50	39	17
clay %	:	4-17	11	17
Hydraulic conductivity (cm/h)	:	0.1-11.5	1.5	15
Bulk density (g/cm^3)	:	1.1-1.4	1.3	15
Organic carbon (%)	:	2.1-2.6	2.3	3
pH water	:	4.0-6.9	5.3	18
pH $CaCl_2$	:	3.4-6.2	4.8	18
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	8-58	33	364
Particle size				
sand %	:	39-76	53	18
dominant sand size		Fine		
silt %	:	16-48	35	18
clay %	:	7-17	12	18
Hydraulic conductivity (cm/h)	:	0.0-1.9	0.3	10
Bulk density (g/cm^3)	:	1.5-1.8	1.6	10
Organic carbon (%)	:	0.4-1.2	0.7	3
pH water	:	4.3-7.0	5.7	19
pH $CaCl_2$	:	3.7-6.1	4.9	19
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	4-57	34	34
dominant sand size		Very fine		
silt %	:	23-66	40	34
clay %	:	18-43	26	34
Hydraulic conductivity (cm/h)	:	0.0-1.1	0.1	20
Bulk density (g/cm^3)	:	1.5-1.8	1.6	20
pH water	:	4.3-7.5	6.0	33
pH $CaCl_2$	:	3.5-7.0	5.2	33
Consistence	:	Firm		

Features differentiating Queens soils

QUE20: 20 to 50 cm of friable fine loamy soil over firm fine loamy soil.
QUE22: 20 to 50 cm of friable coarse loamy soil over firm fine loamy soil.
QUE52: 50 to 80 cm of friable coarse loamy soil over firm fine loamy soil.

Compound map units

QUE52>KSV22 DRT52=QUE52*

QUE52-KSV22: Kingsville (KSV) soils are found in low areas and depressions and Queens soils are found on the upper slopes. Queens-Kingsville map units are found on the escarpment of North Mountain on the Kinsman Corner, Harbourville, Victoria Vale, Clarence East, Centrelea and Granville Centre map sheets. Units are also found on the Avondale, Centre Burlington and Prospect map sheets (Fig. 1).

QUE52 map units

Queens 52 map units are found throughout the survey area, however, the greatest number of map units occur on map sheets from Avondale to Centre Burlington (Fig. 1).

Queens 52 soils contain pockets of fine loamy-gravelly soil on the Melanson map sheet. Pockets of coarse loamy-gravelly soil are found in Queens 52 soils on the upper slopes of the South Mountain escarpment. On the Avondale and Centre Burlington map sheets, pockets of fine loamy and fine loamy-gravelly soil are found in the surface horizons. Queens map units found at the base of North Mountain have a higher silt and a lower than average clay content.

Queens 52 map units include minor inclusions of QUE50 and QUE51 soils.

SPRINGHILL 22 SOILS (SGL22)

Lower soil material and landform

Lower soil material	: Coarse loamy-gravelly till
Slope (range; mean)	: 1.0 to 15.0%; 4.0%
Drainage	: Imperfect
Stoniness (range; mean)	: Nonstony to moderately stony; nonstony
Rockiness	: Nonrocky
Depth to constricting layer (range; mean)	: 30 to 50 cm; 46 cm
Kind of constricting layer	: Compact till

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	5-35	21	93
Particle size				
sand %	:	36-70	55	13
dominant sand size		Very coarse		
silt %	:	25-59	39	13
clay %	:	1-12	6	13
Hydraulic conductivity (cm/h)	:	2.4-11.9	5.0	5
Bulk density (g/cm^3)	:	0.9-1.3	1.2	5
Organic carbon (%)	:	3.0-5.8	4.2	8
pH water	:	4.2-5.9	5.0	13
pH $CaCl_2$	:	3.3-5.1	4.4	13
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	11-55	25	93
Particle size				
sand %	:	40-71	60	13
dominant sand size		Fine		
silt %	:	23-44	32	13
clay %	:	3-16	7	13
Hydraulic conductivity (cm/h)	:	0.2-9.9	3.1	5
Bulk density (g/cm^3)	:	1.3-1.7	1.5	5
Organic carbon (%)	:	0.3-2.4	1.3	8
pH water	:	4.6-7.1	5.5	13
pH $CaCl_2$	:	4.0-5.9	4.6	13
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	38-71	56	20
dominant sand size		Fine		
silt %	:	21-46	33	20
clay %	:	5-17	11	20
pH water	:	4.8-7.4	5.8	20
pH $CaCl_2$	:	4.0-6.4	5.0	20
Consistence	:	Firm		

Features differentiating Springhill soils

SGL22: 20 to 50 cm of friable coarse loamy soil over firm coarse loamy-gravelly soil.
SGL52: 50 to 80 cm of friable coarse loamy soil over firm coarse loamy-gravelly soil.
SGL53: 50 to 80 cm of friable coarse loamy-gravelly soil over firm coarse loamy-gravelly soil.

Compound map units

SGL22>ECY23 HFD23>SGL22*
HFD52>SGL22* HFD53>SGL22*

SGL22-ECY23: Economy (ECY) soils are found in low areas, in depressions, drainage channels and seepage areas in the map unit. Springhill soils are found on the upper slopes. Springhill-Economy map units are found on North Mountain on the West Glenmont and Harbourville map sheets. On South Mountain, they are found on map sheets from Greenfield to Bishopville (Fig. 1).

SGL22 map units

Springhill 22 map units are found on North Mountain from South Scots Bay to Annapolis Royal. Map units are found on South Mountain on the Deep Brook, Lawrencetown E, Lawrencetown W, Nictaux Falls, Greenfield, Bishopville and Hantsport map sheets (Fig. 1).

The C horizons of Springhill soils in the east have a higher than average clay content and Springhill soils at the toe of the North Mountain escarpment have a higher than average sand content. On the Hantsport map sheet, the clay content of Springhill soils is higher than average. Coarse fragment content in the lower soil material ranges from 20 to 35% but higher contents are found on either North or South Mountain. Coarse fragment content in the lower soil material found at the eastern end of North Mountain is higher than in the west.

Springhill 22 map units include minor inclusions of SGL21 and SGL23 soils.

SPRINGHILL 52 SOILS (SGL52)

Lower soil material and landform

Lower soil material	: Coarse loamy-gravelly till
Slope (range; mean)	: 1.0 to 14.0%; 4.0%
Drainage	: Imperfect
Stoniness (range; mean)	: Nonstony to moderately stony; nonstony
Rockiness	: Nonrocky
Depth to constricting layer (range; mean)	: 50 to 66 cm; 55 cm
Kind of constricting layer	: Compact till

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	14-33	22	68
Particle size				
sand %	:	38-73	58	10
dominant sand size		Fine		
silt %	:	22-54	35	10
clay %	:	4-14	7	10
Hydraulic conductivity (cm/h)	:	0.1-3.0	1.3	15
Bulk density (g/cm^3)	:	1.1-1.5	1.4	15
Organic carbon (%)	:	1.9-4.2	3.1	7
pH water	:	3.9-6.5	5.0	10
pH $CaCl_2$	:	3.7-5.9	4.5	10
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	20-47	33	68
Particle size				
sand %	:	47-75	61	10
dominant sand size		Very fine		
silt %	:	17-41	29	10
clay %	:	6-15	10	10
Hydraulic conductivity (cm/h)	:	0.1-2.2	1.0	15
Bulk density (g/cm^3)	:	1.2-1.7	1.5	15
Organic carbon (%)	:	0.4-1.7	0.9	7
pH water	:	4.7-6.7	5.6	10
pH $CaCl_2$	:	3.9-6.0	4.7	10
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	46-75	58	12
dominant sand size		Very coarse		
silt %	:	18-42	30	12
clay %	:	5-17	12	12
Hydraulic conductivity (cm/h)	:	0.0-1.5	0.3	15
Bulk density (g/cm^3)	:	1.3-1.8	1.6	15
pH water	:	5.0-7.1	5.8	12
pH $CaCl_2$	:	4.1-6.5	5.0	12
Consistence	:	Firm		

Features differentiating Springhill soils

SGL22: 20 to 50 cm of friable coarse loamy soil over firm coarse loamy-gravelly soil.
SGL52: 50 to 80 cm of friable coarse loamy soil over firm coarse loamy-gravelly soil.
SGL53: 50 to 80 cm of friable coarse loamy-gravelly soil over firm coarse loamy-gravelly soil.

Compound map units

SGL52>HFD52 HFD52=SGL52* HFD52>SGL52*

SGL52-HFD52: Hansford (HFD) soils are located on the upper slopes and crests and Springhill soils are found on the lower slopes. Springhill-Hansford map units are found on North Mountain on the South Scots Bay, Annapolis Royal and Granville Centre map sheets. Units are also found on South Mountain on the Greenfield, Nicholsville, Lawrencetown East, Tupper Brook and Deep Brook map sheets (Fig. 1).

SGL52 map units

Springhill 52 map units are found on the Greenfield, Blomidon, Welsford and Nicholsville map sheets, however, most units are found west of Lawrencetown East (Fig. 1).

Springhill 52 soils associated with Hebert soils along the base of South Mountain have pockets or layers of sandy soil in the surface horizons.

SPRINGHILL 53 SOILS (SGL53)

Lower soil material and landform

Lower soil material	: Coarse loamy-gravelly till
Slope (range; mean)	: 1.0 to 14.0%; 5.0%
Drainage	: Imperfect
Stoniness (range; mean)	: Nonstony to moderately stony; nonstony
Rockiness (range; mean)	: Nonrocky to slightly rocky; nonrocky
Depth to constricting layer (range; mean)	: 50 to 85 cm; 55 cm
Kind of constricting layer	: Compact till

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	8-54	22	290
Particle size				
sand %	:	34-74	59	13
dominant sand size		Fine		
silt %	:	19-56	33	13
clay %	:	4-10	8	13
Hydraulic conductivity (cm/h)	:	0.0-4.3	3.1	10
Bulk density (g/cm^3)	:	0.9-1.3	1.2	10
Organic carbon (%)	:	3.0-6.7	4.6	6
pH water	:	4.4-6.0	5.2	13
pH $CaCl_2$	:	3.7-5.3	4.5	13
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	12-56	33	290
Particle size				
sand %	:	42-73	60	16
dominant sand size		Very fine		
silt %	:	22-42	30	16
clay %	:	2-17	10	16
Hydraulic conductivity (cm/h)	:	0.1-3.4	2.6	10
Bulk density (g/cm^3)	:	1.3-1.6	1.5	10
Organic carbon (%)	:	0.6-1.9	1.3	6
pH water	:	4.7-6.9	5.5	16
pH $CaCl_2$	:	3.8-5.9	4.7	16
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	35-74	60	31
dominant sand size		Fine		
silt %	:	21-50	30	31
clay %	:	4-17	10	31
Hydraulic conductivity (cm/h)	:	0.1-1.3	0.6	10
Bulk density (g/cm^3)	:	1.5-1.8	1.7	10
pH water	:	5.0-7.0	6.0	31
pH $CaCl_2$	:	3.6-6.1	5.2	31
Consistence	:	Firm		

Features differentiating Springhill soils

SGL22: 20 to 50 cm of friable coarse loamy soil over firm coarse loamy-gravelly soil.
SGL52: 50 to 80 cm of friable coarse loamy soil over firm coarse loamy-gravelly soil.
SGL53: 50 to 80 cm of friable coarse loamy-gravelly soil over firm coarse loamy-gravelly soil.

Compound map units

SGL53=SHN53	SGL53=VRN23	SGL53>ECY23
SGL53>HFD53	ECY23=SGL53*	HFD53=SGL53*
HFD53>SGL53*	HFD83>SGL53*	

SGL53-SHN53: South Alton (SHN) soils are found on the crests and upper slopes where rock outcrops are prominent. Springhill soils are found on the level or gently sloping portions of the map unit. With the exception of the South Alton and Nictaux Falls map sheets, the Springhill-South Alton map units are found on North Mountain map sheets from South Scots Bay to Mount Hanley (Fig. 1).

SGL53-VRN23: Vernon Mines (VRN) soils are located on the upper slopes and crests where bedrock is close to the surface and Springhill soils are located on the level areas. Springhill-Vernon Mines map units are located on both North and South Mountains. On the South Mountain, map units are mainly located on the Deep Brook map sheet and between Hantsport and South Alton. On North Mountain, map units are found on map sheets from South Scots Bay to Vernon Mines (Fig. 1).

SGL53-ECY23: Economy (ECY) soils are found in low areas, depressions, drainage channels and seepage areas. Springhill soils are found on the upper slopes of the map unit. Springhill-Economy map units are found on South Mountain on the Hantsport, Greenfield and Canaan map sheets. On North Mountain, map units are found between South Scots Bay and Blomidon, from Welsford to White's Corner and on the Douglas Road map sheet (Fig. 1).

SGL53-HFD53: Hansford (HFD) soils are located on the upper slopes and crests and Springhill soils are found on the lower slopes of the map unit. Springhill-Hansford map units are found on the Centrelea and Deep Brook map sheets but the majority are found on North Mountain on the Blomidon, Welsford and Victoria Harbour map sheets and on South Mountain on the Canaan and Harmony map sheets (Fig. 1).

SGL53 map units

Springhill 53 soils are the most extensively mapped soil of the Springhill group. They occur on map sheets on North and South Mountain (Fig. 1).

On the Hantsport map sheet, pockets of fine loamy-gravelly soil are found in the surface horizons. When adjacent to glaciofluvial soils at the base of South Mountain, lenses of sand and sandy-gravelly soil are found in the surface horizons.

The lower soil material of Springhill 53 soils in the eastern portion of the survey area has a higher than average clay content. Soils found along the toe of the the North Mountain escarpment have a higher than average sand content. Coarse fragment content in the lower soil material ranges from 20 to 35%. Higher levels of coarse fragments are found on North and South Mountain. Coarse fragment content in the lower soil material of Springhill soils increases on North Mountain from west to east.

Springhill 53 map units include minor inclusions of SGL51 soil.

SOUTH ALTON 23 SOILS (SHN23)

Lower soil material and landform

Lower soil material	: Coarse loamy to loamy-skeletal till veneer over bedrock
Slope (range; mean)	: 0.5 to 14.0%; 4.0%
Drainage	: Moderately well
Stoniness (range; mean)	: Nonstony to moderately stony; moderately stony
Rockiness (range; mean)	: Nonrocky to slightly rocky; nonrocky
Depth to constricting layer (range; mean)	: 7 to 50 cm; 39 cm
Kind of constricting layer	: Bedrock

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	11-28	19	27
Particle size				
sand %	:	47-66	55	7
dominant sand size		Very fine		
silt %	:	26-48	38	7
clay %	:	5-8	7	7
Organic carbon (%)	:	-----	4.1	1
pH water	:	4.9-5.9	5.3	7
pH $CaCl_2$	:	4.2-5.4	4.9	7
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	7-31	20	27
Particle size				
sand %	:	41-75	60	8
dominant sand size		Very fine		
silt %	:	21-51	34	8
clay %	:	3-8	6	8
Organic carbon (%)	:	-----	2.1	1
pH water	:	4.9-5.9	5.4	7
pH $CaCl_2$	:	4.2-5.4	4.7	7
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	52-71	61	8
dominant sand size		Fine		
silt %	:	24-41	33	8
clay %	:	5-8	6	8
pH water	:	4.9-6.4	5.7	8
pH $CaCl_2$	:	4.1-5.5	4.9	8
Consistence	:	Friable		

Features differentiating South Alton soils

SHN23: 20 to 50 cm of friable coarse loamy-gravelly soil over bedrock.
SHN27: 20 to 50 cm of friable loamy-skeletal soil over bedrock.
SHN53: 50 to 80 cm of friable coarse loamy-gravelly soil over bedrock.

Compound map units

SHN23=SHN53	SHN23>HFD53	SHN53>SHN23*
SHN23>SHN53	SHN23>VRN23	HFD23=SHN23*
HFD53=SHN23*		

SHN23-SHN53: South Alton 23 (SHN) soils are found on the upper slopes and crests of the map unit where bedrock is closer to the surface while the South Alton 53 soils are found on the lower slopes and on level areas. South Alton 23-53 map units are found on North Mountain from South Scots Bay to Dempsey Corner (Fig. 1).

SHN23-VRN23: Vernon Mines (VRN) soils are found in lower slopes areas and depressions and the South Alton soils are found on the upper slopes and crests. South Alton-Vernon Mines map units are found on North Mountain from Woodworth Creek to West Glenmont and Welsford to North Kingston. Units are also found on the Douglas Road, Mount Hanley, Newtonville, Nictaux Falls and Paradise map sheets (Fig. 1).

SHN23-HFD53: Hansford (HFD) soils are found on the level topography of the map unit. South Alton soils occur on the crests and upper slopes of the map unit where rock outcrops are prominent. The South Alton-Hansford map units are found on North and South Mountain. Map units occur more frequently on North Mountain on map sheets between West Glenmont and Mount Hanley. On South Mountain, map units are found between Greenfield and Nicholsville (Fig. 1).

SHN23 map units

South Alton map units are found on North and South Mountain. On North Mountain, map units are found on map sheets from South Scots Bay to Mount Hanley. On South Mountain, map units are found on map sheets from Greenfield to Paradise and on the Deep Brook map sheet (Fig. 1).

Although the overall particle size of SHN23 soil is coarse loamy-gravelly, individual horizons range from coarse loamy to loamy-skeletal. Coarse loamy soil is the general particle size of the surface horizon and the horizon above the bedrock is loamy-skeletal. On the South Scots Bay and Forest Glade map sheets, the surface material contains more clay and occasionally layers of fine loamy or fine loamy-gravelly material.

South Alton 23 map units include minor inclusions of SHN20 and SHN21 soil.

SOUTH ALTON 27 SOILS (SHN27)

Lower soil material and landform

Lower soil material	: Coarse loamy to loamy-skeletal till veneer over bedrock
Slope (range; mean)	: 1.0 to 18.0%; 4.5%
Drainage	: Well
Stoniness (range; mean)	: Nonstony to excessively stony; moderately stony
Rockiness (range; mean)	: Nonrocky to moderately rocky; slightly rocky
Depth to constricting layer (range; mean)	: 0 to 46 cm; 35 cm
Kind of constricting layer	: Bedrock

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	6-40	19	363
Particle size				
sand %	:	54-63	58	6
dominant sand size		Very fine		
silt %	:	32-42	36	6
clay %	:	4-12	6	6
Organic carbon (%)	:	-----	9.4	1
pH water	:	4.5-6.5	5.6	6
pH $CaCl_2$	:	3.7-6.0	4.9	6
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	5-38	16	363
Particle size				
sand %	:	44-72	58	4
dominant sand size		Fine		
silt %	:	26-44	35	4
clay %	:	2-17	7	4
Organic carbon (%)	:	-----	5.0	1
pH water	:	5.2-6.4	5.8	4
pH $CaCl_2$	:	4.6-5.9	5.3	4
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	59-69	64	3
dominant sand size		Fine		
silt %	:	27-38	31	3
clay %	:	3-6	5	3
pH water	:	4.7-5.7	5.2	3
pH $CaCl_2$	:	3.9-4.8	4.3	3
Consistence	:	Friable		

Features differentiating South Alton soils

SHN23: 20 to 50 cm of friable coarse loamy-gravelly soil over bedrock.
SHN27: 20 to 50 cm of friable loamy-skeletal soil over bedrock.
SHN53: 50 to 80 cm of friable coarse loamy-gravelly soil over bedrock.

Compound map units

SHN27=SHN53	SHN27>SHN53
SHN27>VRN23	SHN53>SHN27*

SHN27-SHN53: South Alton 27 (SHN27) soils are usually found on the upper slopes and crests of the map unit and the South Alton 53 soils are on the lower slopes and level areas. South Alton 27-53 map units are found on map sheets from Woodside to Forest Glade on North Mountain. Units are found on map sheets from Melanson to South Alton and on the Nictaux Falls map sheet on South Mountain.

SHN27-VRN23: Vernon Mines (VRN) soils are found on the lower slopes and in depressions while South Alton soils are found on the upper slopes and crests. South Alton-Vernon Mines map units are found on South Mountain on the Melanson, South Alton, Prospect and Nicholsville map sheets. Map units on North Mountain are found on the Brooklyn and Douglas Road map sheets (Fig. 1).

SHN 27 map units

South Alton 27 map units are found on North and South Mountains. Map units are found frequently on North Mountain between Woodside and Brooklyn. On South Mountain, map units are found from Melanson to Nictaux Falls (Fig. 1).

Coarse fragments of South Alton 27 soils are typically cobble size. Pockets of coarse loamy-gravelly material are found in the surface horizons of South Alton 27 soils on the North Mountain. South Alton 27 soils on the South Mountain contain pockets of sandy-skeletal and sandy-gravelly soil.

SOUTH ALTON 53 SOILS (SHN53)

Lower soil material and landform

Lower soil material	: Coarse loamy to loamy-skeletal till veneer over bedrock
Slope (range; mean)	: 0.5 to 22.0%; 4.5%
Drainage	: Well
Stoniness (range; mean)	: Nonstony to excessively stony; slightly stony
Rockiness (range; mean)	: Nonrocky to moderately rocky; nonrocky
Depth to constricting layer (range; mean)	: 50 to 70 cm; 57 cm
Kind of constricting layer	: Bedrock

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	7-42	21	599
Particle size				
sand %	:	38-69	55	24
dominant sand size		Very fine		
silt %	:	26-49	38	24
clay %	:	2-13	7	24
Organic carbon (%)	:	3.6-7.1	5.4	4
pH water	:	4.4-6.9	5.5	24
pH $CaCl_2$	:	3.5-5.9	4.7	24
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	9-63	36	599
Particle size				
sand %	:	40-72	57	26
dominant sand size		Very fine		
silt %	:	24-49	37	26
clay %	:	3-17	6	26
Organic carbon (%)	:	0.6-1.9	1.4	4
pH water	:	4.8-6.7	5.5	26
pH $CaCl_2$	:	3.8-5.7	4.7	26
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	33-74	61	46
dominant sand size		Very fine		
silt %	:	20-52	33	46
clay%	:	3-17	6	46
pH water	:	4.9-6.6	5.7	46
pH $CaCl_2$	:	3.8-6.0	4.8	46
Consistence	:	Friable		

Features differentiating South Alton soils

SHN23: 20 to 50 cm of friable coarse loamy-gravelly soil over bedrock.
SHN27: 20 to 50 cm of friable loamy-skeletal soil over bedrock.
SHN53: 50 to 80 cm of friable coarse loamy-gravelly soil over bedrock.

Compound map units

SHN53=VRN23	SHN53>HFD83	SHN53>HTP23
SHN53>SGL53	SHN53>SHN23	SHN53>SHN27
SHN53>VRN23	SHN53>VRN53	HFD53=SHN53*
HFD53>SHN53*	HFD83=SHN53*	HFD83=SHN53*
HFD83>SHN53*	HTP53>SHN53*	SGL53=SHN53*
SHN23=SHN53*	SHN23>SHN53*	SHN27=SHN53*
SHN27>SHN53*	VRN23>SHN53*	WOB53>SHN53*

SHN53-SHN: South Alton 23 and 27 soils are found on the upper slopes and crests of the map unit and the South Alton 53 soils are found on the lower slopes and level areas. South Alton compound map units are found mainly on North Mountain from Pereau to Forest Glade. Units are found on the Canaan, South Alton and Harmony map sheets (Fig. 1) on South Mountain.

SHN53-VRN: Vernon Mines (VRN) soils are found on lower slopes and in depressions while the South Alton soils are found on the upper slopes and crests. South Alton-Vernon Mines map units are found on North Mountain from South Scots Bay to Clarence East and on South Mountain from Canaan to Prospect and on the Nictaux Falls map sheet (Fig. 1).

SHN53-HFD83: Hansford (HFD) soils are found on the lower slopes and level areas while the South Alton soils are found on the upper slopes and crests where the bedrock is closer to the surface. South Alton-Hansford map units are extensively mapped on the Kings County section of North Mountain. Units are found in the Canaan to Prospect area and on the Deep Brook map sheet on South Mountain (Fig. 1).

SHN53-SGL53: Springhill (SGL) soils are found on lower slopes and in depressions while South Alton soils are found on the upper slopes and crests of the map unit where the bedrock is closer to the surface. South Alton-Springhill map units are found mainly on North Mountain in Kings County. Units are also found on South Mountain on the Greenfield and South Alton map sheets (Fig. 1). The underlying bedrock is irregular and exists as a series of ridges and valleys. The South Alton-Springhill map unit describes the landscape where the till is deeper in the valleys than the ridges.

SHN53-HTP23: Hantsport (HTP) soils are found on lower slopes and in depressions. South Alton soils are found on the upper slopes and crests where the bedrock is closer to the surface. South Alton-Hantsport map units occur mainly in the Nictaux Falls area of Annapolis County. Minor areas are found in Kings County on the Melanson and Dempsey Corner map sheets (Fig.1).

SHN53 map units

South Alton 53 map units are found on North Mountain on map sheets from South Scots Bay to Clarence East. They are also found on South Mountain from Greenfield to Prospect and on the Harmony and Nictaux Falls map sheets. (Fig. 1).

Individual horizons of South Alton 53 soils range from coarse loamy to loamy-skeletal. Coarse loamy soil is frequently found at the surface while loamy-skeletal soil is found above the bedrock.

South Alton 53 map units include minor inclusions of SHN50, SHN51 soils on map sheets from Victoria Vale to Clarence East, and SHN52 soils between Pereau and Woodside.

STEWIACKE SOILS (STW)

Soil material and landform

Soil material	: Fine loamy alluvium
Slope (range; mean)	: 0.5 to 4.0%; 1.5%
Drainage	: Poor
Stoniness	: Nonstony
Rockiness	: Nonrocky

Profile characteristics

A horizon	Range	Mean	Number
Thickness (cm)	: 15-60	25	45
Consistence	: Friable to very friable		

C horizon

Consistence	: Friable to firm

STW map units

Stewiacke map units are located throughout the valley floor of the survey area (Figure 1).

Stewiacke soils are found on the floodplains of brooks, streams and rivers which pass through areas of fine loamy soils. They are usually stratified with layers that range in particle size from fine sand to fine loamy.

Stewiacke map units include minor inclusions of CYF soils.

TRURO 52 SOILS (TUO52)

Lower soil material and landform

Lower soil material	: Fine sandy glaciofluvial
Slope (range; mean)	: 0.5 to 15.0%; 3.0%
Drainage	: Well
Stoniness	: Nonstony
Rockiness	: Nonrocky
Depth to contrasting layer (range; mean)	: 50 to 72 cm; 59 cm
Kind of contrasting layer	: Variation in particle size

Profile characteristics

A horizon	Range	Mean	Number
Particle size			
sand %	: 52-72	64	4
dominant sand size	Fine		
silt %	: 20-42	28	4
clay %	: 6-10	8	4
Hydraulic conductivity (cm/h)	: 0.1-10.3	2.9	10
Bulk density (g/cm^3)	: 1.1-1.4	1.3	10
Organic carbon (%)	: 1.6-2.2	1.9	2
pH water	: 4.4-6.7	5.4	4
pH $CaCl_2$	: 3.8-5.9	4.7	4
Consistence	: Friable		

B horizon	Range	Mean	Number
Particle size			
sand %	: 54-75	68	4
dominant sand size	Fine		
silt %	: 20-38	27	4
clay %	: 3-7	5	4
Hydraulic conductivity (cm/h)	: 1.6-7.2	3.2	10
Bulk density (g/cm^3)	: 0.9-1.5	1.2	10
Organic carbon (%)	: 0.6-0.6	0.6	2
pH water	: 5.0-6.6	5.7	4
pH $CaCl_2$	: 4.4-5.6	4.9	4
Consistence	: Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	52-82	74	4
dominant sand size		Fine		
silt %	:	14-41	21	4
clay %	:	3-7	5	4
Hydraulic conductivity (cm/h)	:	0.1-7.7	2.2	10
Bulk density (g/cm^3)	:	1.4-1.6	1.5	10
pH water	:	4.9-6.1	5.4	4
pH $CaCl_2$	:	4.1-5.0	4.4	4
Consistence	:	Loose		

Features differentiating Truro soils

TUO52: 50 to 80 cm of friable coarse loamy soil over loose fine sandy soil.
TUO84: greater than 80 cm of loose fine sandy soil.

TUO52 map units

Truro 52 map units are found in the eastern end of Kings County from Pereau to Kinsman Corner. Truro 52 units are also found on Nicholsville and Granville Centre map sheets (Fig. 1).

Truro 52 soils sometimes contain lenses of sand. Alternating coarse loamy and fine sandy lenses are found occasionally in the lower horizons. This is especially prevalent on the Kinsman Corner map sheet.

Truro 52 map units include minor inclusions of AVP54, AVP82, CNW52 and PGW54 soils. The AVP82 soils are found on the Centreville map sheet. The CNW52 and PGW54 soils are found on the Granville Centre, Woodside and Kinsman Corner map sheets.

TRURO 84 SOILS (TUO84)

Lower soil material and landform

Lower soil material	: Fine sandy glaciofluvial
Slope (range; mean)	: 0.5 to 14.0%; 3.0%
Drainage	: Well
Stoniness	: Nonstony
Rockiness	: Nonrocky

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	10-55	26	192
Particle size				
sand %	:	79-89	84	4
dominant sand size		Fine		
silt %	:	6-16	11	4
clay %	:	5-6	5	4
Hydraulic conductivity (cm/h)	:	0.6-4.4	2.6	5
Bulk density (g/cm^3)	:	1.1-1.3	1.2	5
Organic carbon (%)	:	-----	2.3	1
pH water	:	4.7-6.8	5.8	4
pH $CaCl_2$	:	3.8-6.2	5.0	4
Consistence	:	Very friable to loose		

B horizon		Range	Mean	Number
Thickness (cm)	:	10-70	32	192
Particle size				
sand %	:	76-90	84	4
dominant sand size		Fine		
silt %	:	8-19	12	4
clay %	:	3-5	4	4
Hydraulic conductivity (cm/h)	:	1.0-9.4	4.3	5
Bulk density (g/cm^3)	:	1.0-1.3	1.1	5
Organic carbon (%)	:	-----	1.4	1
pH water	:	4.5-6.9	5.4	4
pH $CaCl_2$	:	4.2-6.3	5.0	4
Consistence	:	Very friable to loose		

C horizon		Range	Mean	Number
Particle size				
sand %	:	72-98	90	7
dominant sand size		Fine		
silt %	:	0-23	6	7
clay %	:	2-6	4	7
Hydraulic conductivity (cm/h)	:	5.0-7.9	6.7	5
Bulk density (g/cm^3)	:	1.3-1.4	1.3	5
pH water	:	5.0-6.1	5.5	7
pH $CaCl_2$	:	4.1-5.4	4.6	7
Consistence	:	Loose		

Features differentiating Truro soils

TUO52: 50 to 80 cm of friable coarse loamy soil over loose fine sandy soil.
TUO84: greater than 80 cm of loose fine sandy soil.

Compound map units

TUO84>CNW85	TUO84>CNWX5	PGW82>TUO84*
TUO84>FSH52	TUO84>OSW84	

TUO84-CNW: Cornwallis (CNW) soils are located on the upper slopes and crests while Truro soils are located on the lower slopes. Truro-Cornwallis map units are found on the Grand Pre, Avonport Station, Kinsman Corner, Grafton, Kingston and Kingsport map sheets (Fig. 1). In the Truro-Cornwallis X5 map units, Truro soils may contain cemented layers.

TUO84-FSH52: Fash (FSH) soils are found in depressions and on lower slopes and Truro soils are found on the upper slopes. Truro-Fash map units are not extensively mapped. Map units are found on the Grand Pre, Avonport Station, Kinsman Corner and North Kingston map sheets (Fig. 1).

TUO84-OSW84: Onslow (OSW) soils are found in low areas and depressions while Truro soils are found on the upper slopes. Truro-Onslow map units are found between Centreville and Kinsman Corner, from Kingston to Middleton, and on the Paradise and Annapolis Royal map sheets (Fig. 1).

TUO84 map units

Truro 84 map units are found on the valley floor from Avonport Station to Middleton and on the Paradise, Bridgetown and Annapolis Royal map sheets (Fig. 1).

Truro soils are associated with the Cornwallis soils. Truro 84 soils contain lenses of sand and sandy-gravelly soil in the Nicholsville area. Lenses of fine loamy soil are found in Truro soils on the Grand Pre map sheet. AVP84 soils are included with the Truro 84 map units on the Grand Pre sheet.

Truro 84 map units include minor inclusions of CNW54 and AVP54 soils. These soils are found on the Pereau, Centreville and Middleton map sheets.

VERNON MINES 23 SOILS (VRN23)

Lower soil material and landform

Lower soil material	: Coarse loamy to loamy-skeletal till veneer over bedrock
Slope (range; mean)	: 1.0 to 11.0%; 4.0%
Drainage	: Imperfect
Stoniness (range; mean)	: Nonstony to excessively stony; moderately stony
Rockiness (range; mean)	: Nonrocky to moderately rocky; slightly rocky
Depth to constricting layer (range; mean)	: 4 to 53 cm; 40 cm
Kind of constricting layer	: Bedrock

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	8-33	20	120
Particle size				
sand %	:	-----	50	1
dominant sand size			Very fine	
silt %	:	-----	44	1
clay %	:	-----	6	1
Organic carbon (%)	:	-----	7.2	1
pH water	:	-----	5.4	1
pH $CaCl_2$	:	-----	4.8	1
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	8-45	20	120
Particle size				
sand %	:	48-71	57	3
dominant sand size		Very fine		
silt %	:	22-47	35	3
clay %	:	5-13	8	3
Organic carbon (%)	:	-----	6.4	1
pH water	:	5.2-6.0	5.5	3
pH $CaCl_2$	:	4.6-4.7	4.6	3
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	48-63	53	3
dominant sand size		Very fine		
silt %	:	30-37	33	3
clay %	:	12-15	14	3
pH water	:	5.6-6.7	6.1	3
$CaCl_2$	:	4.7-5.4	5.1	3
Consistence	:	Friable		

Features differentiating Vernon Mines soils

VRN23: 20 to 50 cm of friable coarse loamy-gravelly soil over bedrock.
VRN53: 50 to 80 cm of friable coarse loamy-gravelly soil over bedrock.

Compound map units

VRN23>CAA23	VRN23>HFD53	VRN23>SHN53
CAA23>VRN23*	HFD53>VRN23*	SHN23>VRN23*
SHN27>VRN23*	SHN53=VRN23*	SHN53>VRN23*

VRN23-CAA23: Canaan (CAA) soils are located in low areas and depressions and the Vernon Mines soils are located on the upper slopes. Vernon Mines-Canaan map units are found on the South Alton map sheet on South Mountain and on the West Glenmont, Welsford and Dempsey Corner map sheets on North Mountain (Fig. 1).

VRN23-HFD53: Hansford (HFD) soils are found on the upper slopes of the map unit and the Vernon Mines soils are found on the lower slopes and in depressions. Vernon Mines-Hansford map units are found on South Mountain on map sheets from Hantsport to Avonport Station and on the Nicholsville and Aylesford Lake map sheets (Fig. 1).

VRN23-SHN53: South Alton (SHN) soils occur on the crests and upper slopes of the map unit and the Vernon Mines soils are found on the lower slopes and in the depressions. Other than the Canaan map sheet, Vernon Mines-South Alton map units are located on North Mountain on the Vernon Mines, Centreville, West Glenmont and Dempsey Corner map sheets (Fig. 1).

VRN23 map units

Vernon Mines 23 map units are found on North Mountain from South Scots Bay to Mount Hanley, on South Mountain from Canaan to Nictaux Falls and on the Hantsport map sheet (Fig. 1).

Vernon Mines soils contain basalt cobbles on North Mountain and slate and shale gravel on South Mountain. Individual horizons range from coarse loamy to loamy-skeletal in Vernon Mines 23 soils. Coarse loamy soil is found generally at the surface and loamy-skeletal soil above the bedrock.

Vernon Mines 23 map units include minor inclusions of VRN20 and VRN21 soils, found in the Hantsport area, and VRN22 and VRN27 soils.

VERNON MINES 53 SOILS (VRN53)

Lower soil material and landform

Lower soil material	: Coarse loamy to loamy-skeletal till veneer over bedrock
Slope (range; mean)	: 0.5 to 14.0%; 4.0%
Drainage	: Imperfect
Stoniness (range; mean)	: Nonstony to excessively stony; slightly stony
Rockiness (range; mean)	: Nonrocky to slightly rocky; nonrocky
Depth to constricting layer (range; mean)	: 50 to 68 cm; 59 cm
Kind of constricting layer	: Bedrock

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	12-32	23	16
Particle size				
sand %	:	-----	53	1
dominant sand size		Very fine		
silt %	:	-----	42	1
clay %	:	-----	5	1
pH water	:	-----	5.6	1
pH $CaCl_2$	:	-----	5.0	1
Consistence	:	Friable		

B horizon

		Range	Mean	Number
Thickness (cm)	:	14-52	36	16
Particle size				
sand %	:	57-61	59	2
dominant sand size		Fine		
silt %	:	32-33	33	2
clay %	:	6-11	8	2
pH water	:	5.7-6.0	5.9	2
pH $CaCl_2$	:	5.2-5.3	5.2	2
Consistence	:	Friable		

C horizon

		Range	Mean	Number
Consistence	:	Friable		
Particle size				
sand %	:	42-56	49	2
dominant sand size		Fine		
silt %	:	34-52	43	2
clay %	:	6-9	8	2
pH water	:	5.1-6.2	5.7	2
pH $CaCl_2$	:	4.9-5.5	5.2	2

Features differentiating Vernon Mines soils

VRN23: 20 to 50 cm of friable coarse loamy-gravelly soil over bedrock.
VRN53: 50 to 80 cm of friable coarse loamy-gravelly soil over bedrock.

Compound map units

SHN53>VRN53*

VRN53 map units

Vernon Mines 53 map units are found on the Nictaux Falls map sheet on South Mountain and on the Woodside, Welsford and Victoria Vale map sheets of North Mountain (Fig. 1).

Vernon Mines soils contain basalt cobbles on North Mountain and slate and shale gravels on South Mountain. Individual horizons range from coarse loamy to loamy-skeletal in Vernon Mines 23 soils. Coarse loamy soil is found generally at the surface and loamy-skeletal soil above the bedrock.

Vernon Mines 53 map units include minor inclusions of VRN57, found on the Nictaux Falls map sheet and VRN52 soil, found on the Woodside map sheet.

WOODBOURNE 53 SOILS (WOB53)

Lower soil material and landform

Lower soil material	: Fine loamy-gravelly till
Slope (range; mean)	: 0.5 to 15.0%; 5.0%
Drainage	: Moderately well
Stoniness (range; mean)	: Nonstony to moderately stony; nonstony
Rockiness	: Nonrocky
Depth to constricting layer (range; mean)	: 50 to 85 cm; 54 cm
Kind of constricting layer	: Compact till

Profile characteristics

A horizon		Range	Mean	Number
Thickness (cm)	:	7-41	22	288
Particle size				
sand %	:	37-53	46	4
dominant sand size		Very fine		
silt %	:	42-50	45	4
clay %	:	6-13	9	4
pH water	:	3.9-5.6	4.7	4
pH $CaCl_2$	:	3.4-4.9	4.1	4
Consistence	:	Friable		

B horizon		Range	Mean	Number
Thickness (cm)	:	10-68	32	288
Particle size				
sand %	:	52-66	59	4
dominant sand size		Very fine		
silt %	:	27-37	32	4
clay %	:	9-14	9	4
pH water	:	4.7-5.9	5.2	4
pH $CaCl_2$	:	4.1-5.1	4.5	4
Consistence	:	Friable		

C horizon		Range	Mean	Number
Particle size				
sand %	:	39-54	46	16
dominant sand size		Fine		
silt %	:	26-37	32	16
clay %	:	18-30	22	16
pH water	:	4.7-6.8	5.9	16
pH $CaCl_2$	:	4.1-6.1	5.0	16
Consistence	:	Firm		

Compound map units

WOB53>HTP53	WOB53>SHN53
HTP53>WOB53*	HTP23>WOB53*

WOB53-HTP53: Hantsport (HTP) soils are found in low areas and depressions while the Woodbourne soils are found on the upper slopes. Woodbourne-Hantsport map units are found only in the eastern part of the survey area from Avonport Station to Canaan (Fig. 1).

WOB53-SHN53: South Alton (SHN) soils are found on the upper slopes and crests where bedrock is close to the surface. Woodbourne soils are found on the lower slopes. The Woodbourne-South Alton map units are found on North Mountain from North Kingston to Forest Glade. Some units are found on South Mountain on the Newtonville, Nictaux Falls and Deep Brook map sheets (Fig. 1). The South Alton soils the unit contain fine loamy and fine loamy-gravelly layers.

WOB53 map units

Woodbourne 53 map units are found in the eastern end of the survey area from Avonport Station to Canaan. Units are found on the Nictaux Falls, Deep Brook and Harbourville map sheets and from Forest Glade to North Kingston (Fig. 1).

Woodbourne soils contain cobbles on North Mountain and gravel size fragments on South Mountain. In the eastern end of the survey area the clay content of the Woodbourne soils is lower than average especially where Woodbourne soils are associated with Hansford soils. Pockets of fine loamy, fine loamy-gravelly and coarse loamy soil are found as inclusions in Woodbourne surface soil.

Woodbourne 53 map units include minor inclusions of WOB50 and WOB51 found on the Hantsport map sheet and WOB52 soils found on North Mountain.

LAND TYPES (Three letter codes beginning with Z)

Coastal Beaches (ZCB)

Beach deposits of sands and sorted gravels.

Escarpments (ZES)

Units having extremely steep slopes generally in one direction. They occur mainly along the south facing slopes of the North Mountain.

Gravel Pits (ZGP)

Areas used for extraction of aggregate materials. Sand pits are also included in this map unit.

Gullies (ZGY)

Channels of intermittent streams and brooks and their steeply sloping sides.

Non-surveyed Areas (ZNS)

Areas on map sheets not included in this survey project.

Salt Marsh (ZSM)

Areas which are flooded frequently by tidal waters.

Urban Land (ZUL)

All mappable urban areas, including Federal and Provincial parks.

Water Bodies (ZZZ)

Water bodies large enough to be delineated are coded ZZZ on digital maps. However, on the photomosaics included in this report, water bodies are simply coloured blue and not given a symbol.

PART 4. SOIL INTERPRETATIONS FOR AGRICULTURE

Introduction

Soil interpretations for agriculture are based on the evaluation of climate and soil characteristics that influence soil suitability for farming. Soils are grouped into classes and subclasses based on their limitations for rain fed farming (irrigation is assumed for vegetables only), risk of damage when the soils are used and the way the soils respond to management. The interpretations in this report are based on the following assumptions:

1. Good soil and crop management practices that are feasible are carried out. This includes the use of fertilizers, lime, artificial drainage, and proper weed and pest control. Surface ditching, land forming, and dyke maintenance are practiced for marine soils. Drainage is improved by one class where tile drainage is feasible. Tile drainage is feasible for all except the following:

   a) map units with slopes less than 2% or over 15%
   b) map units with rockiness classes of 4 or 5
   c) map units with stoniness classes of 4 or 5
   d) soils with bedrock within 80 cm of the surface
   e) soils subject to frequent or very frequent inundation
   f) organic soils.

2. Soils within a class have a similar degree of limitation although the kind of limitation may be different. Each class includes several soils which may require a different management system for crop production because of their different limitations. Subclasses provide information on the type of limitation while the class denotes the intensity of the limitation.

3. Only the most severe limitations are noted. For example, if the drainage limitation of a soil is 5W and its topographic limitation is 4T, the rating is 5W. A soil is rated 5TW only if the both the topographic and drainage limitations are 5.

4. Distance to market, availability of land transportation, size of farm, cultural patterns, and exceptional skill or resources of the farm operator are not criteria for this classification.

5. The interpretations are subject to change as new information on soil response to management becomes available. New technology or a change in economic conditions also require a new classification.

CLI capability classification for agriculture

The CLI Capability Classification for Agriculture groups soils into seven classes (Department of Forestry 1965). The first three are considered capable of sustained production of common field crops, the fourth is marginal for sustained arable agriculture, the fifth is capable of use only for improved permanent pasture, the sixth is capable of use only for wild pasture and the seventh class includes soils and land types considered incapable of sustained agricultural use. Although soils in classes one to four are capable for use for cultivated field crops, they are also capable for use as permanent pasture. For purposes of this classification, trees, shrubs and ornamental plants that require little cultivation are not considered. The interpretations do apply to small grains, silage corn and forage crops.

Capability classes

Class 1. Soils in this class have no significant limitations for crop production. No map units in Nova Scotia are rated Class 1 because the regional climate (insufficient heat units) is considered a limitation for optimal crop growth. Therefore, soils normally rated Class 1 were reduced to Class 2 and assigned subclass C.

Class 2. Soils in this class have moderate limitations that restrict the range of crops grown. The only limitation in this class in Nova Scotia is adverse climate.

Class 3. Soils in this class have moderately severe limitations that restrict the range of crops grown. In this class, the type of limitation found may be one or more of the following: inundation, moisture limitation, stoniness, consolidated bedrock, topography, excess water (applies to the continuing drainage of the soil after improvement, if feasible, by tile), undesirable structure or low permeability and coarse fragments.

Class 4. Soils in this class have severe limitations that restrict the range of crops or require special conservation practices or both. In this class the type of limitation found may be one or more of the following: inundation, moisture limitation, stoniness, consolidated bedrock, topography, excess water (applies to the continuing drainage of the soil after improvement, if feasible, by tile), undesirable structure or low permeability and coarse fragments or the cumulative effect of three or more Class 3 limitations.

Class 5. Soils in this class have very severe limitations that restrict their capability to produce perennial forage crops. Improvement practices are feasible. In this class, the type of limitation found may be one or more of the following: inundation, moisture limitation, stoniness, consolidated bedrock, topography, excess water (applies to the continuing drainage of the soil after improvement, if feasible, by tile), undesirable structure or low permeability and coarse fragments or the cumulative effect of three or more Class 4 limitations.

Class 6. Soils in this class are capable only of producing perennial forage crops and improvement practices are not feasible. Most soils in Nova Scotia revert to forest if not maintained by man so map units normally keyed to Class 6 have been rated Class 7.

Class 7. Soils in this class have no capability for the production of common field crops or permanent pasture. In this class the type of limitation found may be topography or the cumulative effect of three or more Class 5 limitations.

Capability subclasses

Adverse climate (C). This subclass indicates inadequate heat units for the optimal growth of a wide range of crops. It is used for Class 2 soils only.

Undesirable soil structure or slow permeability (D). This subclass is used for soils with a potential rooting zone restricted by conditions other than high water table or consolidated bedrock (e.g. compact till).

Coarse fragments (G). This subclass includes soils that contain enough coarse fragments to impede seed germination and optimum root development, and to increase the wear and tear on tillage machinery.

Inundation by streams or lakes (I). This subclass includes soils subjected to inundation causing crop damage or restricting agricultural use.

Moisture (M). This subclass consists of soils on which crops are adversely affected by lack of water owing to inherent soil characteristics.

Stoniness (P). This subclass includes map units sufficiently stony to significantly hinder tillage, planting and harvesting operations.

Consolidated bedrock (R). This subclass includes soils where the presence of bedrock near the surface restricts their agricultural use.

Topography (T). This subclass includes map units which are limited by topography. Higher percent slope increases the cost of farming by decreasing the uniformity of crop growth and maturity and by increasing the risk of water erosion.

Excess water (W). This subclass includes soils in which excess water other than that brought about by inundation is a limitation to use. Excess water may result from inadequate soil drainage, a high water table, seepage or run-off from surrounding areas.

Cumulative adverse characteristics (X). This subclass is made up of soils which have three or more limitations of the same degree. The soil is downgraded one class and assigned the X subclass.

How to use the CLI rating key

Step 1: Find, for each soil in the map unit:

- mode of deposition
- subsoil particle size
- surface soil material particle size
- depth of friable soil
- drainage
- slope

Step 2: Follow the key in Table 6 to determine the CLI rating for each soil in the map unit.

Example 1: QUE52 / B

mode of deposition	till	1.
subsoil particle size	fine loamy	1.1
friable soil particle size	coarse loamy	1.1.1.
depth of friable soil	50 - 80 cm	1.1.1.1.
drainage	imperfect	1.1.1.1.2.
slope	B (2 to 5%)	1.1.1.1.2.1

Final CLI rating is 3W

Example 2: QUE52>PGW82 / B

Soil 1 - QUE52 / B see example 1

Soil 2 - PGW82 / B

mode of deposition	till	1.
subsoil particle size	coarse loamy	1.1
friable soil particle size	coarse loamy	1.1.1.
depth of friable soil	>80 cm	1.1.1.1.
drainage	well	1.1.1.1.1.
slope	B (2 to 5%)	1.1.1.1.1.1

CLI rating is 2C

Overall CLI rating for the map unit is 3W > 2C

Table 6. Soil capability for agriculture key

For slopes of >30% (all soils).....7T

1. Mode of deposition: Till

1.1 Subsoil particle size: fine loamy, coarse loamy, fine loamy-gravelly or coarse loamy-gravelly

1.1.1 Surface material particle size: coarse loamy or coarse loamy-gravelly

1.1.1.1 Depth to compact subsoil: >50 cm

1.1.1.1.1 Drainage: well or moderately well

1.1.1.1.1.1 Slope: 0 to 5% 2C
1.1.1.1.1.2 Slope: 5 to 9% 3T
1.1.1.1.1.3 Slope: 9 to 15% 4T
1.1.1.1.1.4 Slope: 15 to 30% 5T

1.1.1.1.2 Drainage: imperfect

1.1.1.1.2.1 Slope: 0 to 2% 3W
1.1.1.1.2.2 Slope: 2 to 5% 2C
1.1.1.1.2.3 Slope: 5 to 9% 3T
1.1.1.1.2.4 Slope: 9 to 15% 4T
1.1.1.1.2.5 Slope: 15 to 30% 5T

1.1.1.1.3 Drainage: poor

1.1.1.1.3.1 Slope: 0 to 2% 5W
1.1.1.1.3.2 Slope: 2 to 5% 3W
1.1.1.1.3.3 Slope: 5 to 9% 3TW
1.1.1.1.3.4 Slope: 9 to 15% 4T
1.1.1.1.3.5 Slope: 15 to 30% 5T

1.1.1.2 Depth to compact subsoil: 20 to 50 cm

1.1.1.2.1 Drainage: well or moderately well

1.1.1.2.1.1 Slope: 0 to 5% 3D
1.1.1.2.1.2 Slope: 5 to 9% 3DT
1.1.1.2.1.3 Slope: 9 to 15% 4T
1.1.1.2.1.4 Slope: 15 to 30% 5T

1.1.1.2.2 Drainage: imperfect

1.1.1.2.2.1 Slope: 0 to 2% 4W
1.1.1.2.2.2 Slope: 2 to 5% 3D
1.1.1.2.2.3 Slope: 5 to 9% 3DT
1.1.1.2.2.4 Slope: 9 to 15% 4T
1.1.1.2.2.5 Slope: 15 to 30% 5T

(continued)

Table 6. Soil capability for agriculture key (continued)

1.1.1.2.3 Drainage: poor
1.1.1.2.3.1 Slope: 0 to 2% 5W
1.1.1.2.3.2 Slope: 2 to 9% 4W
1.1.1.2.3.3 Slope: 9 to 15%.....4TW
1.1.1.2.3.4 Slope: 15 to 30% 5T

1.1.2 Surface material particle size: fine loamy or fine loamy-gravelly

1.1.2.1 Depth to compact subsoil: 20 to 50 cm

1.1.2.1.2 Drainage: imperfect
1.1.2.1.2.1 Slope: 0 to 9% 4DW
1.1.2.1.2.2 Slope: 9 to 15% 5X
1.1.2.1.2.3 Slope: 15 to 30% 5T

1.1.2.1.3 Drainage: poor
1.1.2.1.3.1 Slope: 0 to 15% 5DW
1.1.2.1.3.2 Slope: 15 to 30% 7X

1.2 Subsoil particle size: skeletal-loamy

1.2.1 Surface material particle size: coarse loamy gravelly

1.2.1.1 Depth of surface material: 50 to 80 cm

1.2.1.1.1 Drainage: well
1.2.1.1.1.1 Slope: 0 to 5% 2C
1.2.1.1.1.2 Slope: 5 to 9% 3T
1.2.1.1.1.3 Slope: 9 to 15% 4T
1.2.1.1.1.4 Slope: 15 to 30% 5T

1.2.1.1.2 Drainage: imperfect
1.2.1.1.2.1 Slope: 0 to 2% 3W
1.2.1.1.2.2 Slope: 2 to 5% 2C
1.2.1.1.2.3 Slope: 5 to 9% 3T
1.2.1.1.2.4 Slope: 9 to 15% 4T
1.2.1.1.2.5 Slope: 15 to 30% 5T

1.2.1.1.3 Drainage: poor
1.2.1.1.3.1 Slope: 0 to 2% 5W
1.2.1.1.3.2 Slope: 2 to 5% 3W
1.2.1.1.3.3 Slope: 5 to 9% 3TW
1.2.1.1.3.4 Slope: 9 to 15% 4T
1.2.1.1.3.5 Slope: 15 to 30% 5T

(continued)

Table 6. Soil capability for agriculture key (continued)

1.2.1.2 Depth of surface material: 20 to 50 cm

1.2.1.2.1 Drainage: well
- 1.2.1.2.1.1 Slope: 0 to 5% 3G
- 1.2.1.2.1.2 Slope: 5 to 9% 3GT
- 1.2.1.2.1.3 Slope: 9 to 15% 4T
- 1.2.1.2.1.4 Slope: 15 to 30% 5T

1.2.1.2.2 Drainage: imperfect
- 1.2.1.2.2.1 Slope: 0 to 2% 3GW
- 1.2.1.2.2.2 Slope: 2 to 5% 3G
- 1.2.1.2.2.3 Slope: 5 to 9% 3GT
- 1.2.1.2.2.4 Slope: 9 to 15% 4T
- 1.2.1.2.2.5 Slope: 15 to 30% 5T

1.2.1.2.3 Drainage: poor
- 1.2.1.2.3.1 Slope: 0 to 2% 5W
- 1.2.1.2.3.2 Slope: 2 to 5% 3GW
- 1.2.1.2.3.3 Slope: 5 to 9% 4X
- 1.2.1.2.3.4 Slope: 9 to 15% 4T
- 1.2.1.2.3.5 Slope: 15 to 30% 5T

1.2.2 Surface material particle size: skeletal-loamy

1.2.2.1 Depth to compact subsoil: >80 cm

1.2.2.1.1 Drainage: well
- 1.2.2.1.1.1 Slope: 0 to 9% 4G
- 1.2.2.1.1.2 Slope: 9 to 15% 4GT
- 1.2.2.1.1.3 Slope: 15 to 30% 5T

1.2.2.1.2 Drainage: imperfect
- 1.2.2.1.2.1 Slope: 0 to 9% 4G
- 1.2.2.1.2.2 Slope: 9 to 15% 4GT
- 1.2.2.1.2.3 Slope: 15 to 30% 5T

1.2.2.1.3 Drainage: poor
- 1.2.2.1.3.1 Slope: 0 to 2% 5W
- 1.2.2.1.3.2 Slope: 2 to 9% 4GW
- 1.2.2.1.3.3 Slope: 9 to 15% 5X
- 1.2.2.1.3.4 Slope: 15 to 30% 5T

(continued)

Table 6. Soil capability for agriculture key (continued)

1.3 Subsoil particle size: bedrock

1.3.1 Surface material particle size: coarse loamy or coarse loamy-gravelly

1.3.1.1 Depth of surface material: 50 to 80 cm

1.3.1.1.1 Drainage: well
- 1.3.1.1.1.1 Slope: 0 to 5% 3R
- 1.3.1.1.1.2 Slope: 5 to 9% 3RT
- 1.3.1.1.1.3 Slope: 9 to 15% 4T
- 1.3.1.1.1.4 Slope: 15 to 30% 5T

1.3.1.1.2 Drainage: imperfect
- 1.3.1.1.2.1 Slope: 0 to 5% 3RW
- 1.3.1.1.2.2 Slope: 5 to 9% 4X
- 1.3.1.1.2.3 Slope: 9 to 15% 4T
- 1.3.1.1.2.4 Slope: 15 to 30% 5T

1.3.1.1.3 Drainage: poor
- 1.3.1.1.3.1 Slope: 0 to 15% 5W
- 1.3.1.1.3.2 Slope: 15 to 30% 5TW

1.3.1.2 Depth of surface material: 20 to 50 cm

1.3.1.2.1 Drainage: well
- 1.3.1.2.1.1 Slope: 0 to 15% 5R
- 1.3.1.2.1.2 Slope: 15 to 30% 5RT

1.3.1.2.2 Drainage: imperfect
- 1.3.1.2.2.1 Slope: 0 to 15% 5R
- 1.3.1.2.2.2 Slope: 15 to 30% 5RT

1.3.1.2.3 Drainage: poor
- 1.3.1.2.3.1 Slope: 0 to 15% 5RW
- 1.3.1.2.3.2 Slope: 15 to 30% 7X

1.3.2 Surface material particle size: skeletal-loamy

1.3.2.1 Depth of surface material: 50 to 80 cm

1.3.2.1.1 Drainage: well
- 1.3.2.1.1.1 Slope: 0 to 5% 3GR
- 1.3.2.1.1.2 Slope: 5 to 9% 4X
- 1.3.2.1.1.3 Slope: 9 to 15% 4T
- 1.3.2.1.1.4 Slope: 15 to 30% 5T

(continued)

Table 6. Soil capability for agriculture key (continued)

1.3.2.1.2 Drainage: imperfect
1.3.2.1.2.1 Slope: 0 to 5% 3GR
1.3.2.1.2.2 Slope: 5 to 9% 4X
1.3.2.1.2.3 Slope: 9 to 15% 4T
1.3.2.1.2.4 Slope: 15 to 30% 5T

1.3.2.1.3 Drainage: poor
1.3.2.1.3.1 Slope: 0 to 9% 5W
1.3.2.1.3.2 Slope: 9 to 15% 5X
1.3.2.1.3.3 Slope: 15 to 30% 5T

1.3.2.2 Depth of surface material: 20 to 50 cm

1.3.2.2.1 Drainage: well
1.3.2.2.1.1 Slope: 0 to 15% 5R
1.3.2.2.1.2 Slope: 15 to 30% 5RT

1.3.2.2.2 Drainage: imperfect
1.3.2.2.2.1 Slope: 0 to 15% 5R
1.3.2.2.2.2 Slope: 15 to 30% 5RT

1.3.2.2.3 Drainage: poor
1.3.2.2.3.1 Slope: 0 to 15% 5RW
1.3.2.2.3.2 Slope: 15 to 30% 7X

2. Mode of deposition: Glaciofluvial

2.1 Subsoil particle size: skeletal-sandy or sandy-gravelly

2.1.1 Surface material particle size: coarse loamy or coarse loamy-gravelly

2.1.1.1 Depth of surface material: 50 to 80 cm

2.1.1.1.1 Drainage: well
2.1.1.1.1.1 Slope: 0 to 5% 2C
2.1.1.1.1.2 Slope: 5 to 9% 3T
2.1.1.1.1.3 Slope: 9 to 15% 4T
2.1.1.1.1.4 Slope: 15 to 30% 5T

2.1.1.1.2 Drainage: imperfect
2.1.1.1.2.1 Slope: 0 to 2% 3W
2.1.1.1.2.2 Slope: 2 to 5% 2C
2.1.1.1.2.3 Slope: 5 to 9% 3T
2.1.1.1.2.4 Slope: 9 to 15% 4T
2.1.1.1.2.5 Slope: 15 to 30% 5T

(continued)

Table 6. Soil capability for agriculture key (continued)

2.1.1.1.3 Drainage: poor
2.1.1.1.3.1 Slope: 0 to 2% 5W
2.1.1.1.3.2 Slope: 2 to 5% 3W
2.1.1.1.3.3 Slope: 5 to 9% 3TW
2.1.1.1.3.4 Slope: 9 to 15% 4T
2.1.1.1.3.5 Slope: 15 to 30% 5T

2.1.1.2 Depth of surface material: 20 to 50 cm

2.1.1.2.1 Drainage: rapid
2.1.1.2.1.1 Slope: 0 to 5% 3M
2.1.1.2.1.2 Slope: 5 to 9% 3MT
2.1.1.2.1.3 Slope: 9 to 15% 4T
2.1.1.2.1.4 Slope: 15 to 30% 5T

2.1.1.2.2 Drainage: imperfect
2.1.1.2.2.1 Slope: 0 to 2% 3MW
2.1.1.2.2.2 Slope: 2 to 5% 3M
2.1.1.2.2.3 Slope: 5 to 9% 3MT
2.1.1.2.2.4 Slope: 9 to 15% 4T
2.1.1.2.2.5 Slope: 15 to 30% 5T

2.1.1.2.3 Drainage: poor
2.1.1.2.3.1 Slope: 0 to 2% 5W
2.1.1.2.3.2 Slope: 2 to 5% 3MW
2.1.1.2.3.3 Slope: 5 to 9% 4X
2.1.1.2.3.4 Slope: 9 to 15% 4T
2.1.1.2.3.5 Slope: 15 to 30% 5T

2.1.2 Surface material particle size: sandy

2.1.2.1 Depth of surface material: 50 to 80 cm

2.1.2.1.1 Drainage: rapid
2.1.2.1.1.1 Slope: 0 to 5% 3M
2.1.2.1.1.2 Slope: 5 to 9% 3MT
2.1.2.1.1.3 Slope: 9 to 15% 4T
2.1.2.1.1.4 Slope: 15 to 30% 5T

2.1.2.1.2 Drainage: imperfect
2.1.2.1.2.1 Slope: 0 to 5% 3MW
2.1.2.1.2.2 Slope: 5 to 9% 4X
2.1.2.1.2.3 Slope: 9 to 15% 4T
2.1.2.1.2.4 Slope: 15 to 30% 5T

(continued)

Table 6. Soil capability for agriculture key (continued)

2.1.2.1.3 Drainage: poor
2.1.2.1.3.1 Slope: 0 to 9% 4MW
2.1.2.1.3.2 Slope: 9 to 15% 5X
2.1.2.1.3.3 Slope: 15 to 30% 5T

2.1.2.2 Depth of surface material: 20 to 50 cm

2.1.2.2.1 Drainage: rapid
2.1.2.2.1.1 Slope: 0 to 9% 4M
2.1.2.2.1.2 Slope: 9 to 15% 4MT
2.1.2.2.1.3 Slope: 15 to 30% 5T

2.1.2.2.2 Drainage: imperfect
2.1.2.2.2.1 Slope: 0 to 5% 3MW
2.1.2.2.2.2 Slope: 5 to 9% 4X
2.1.2.2.2.3 Slope: 9 to 15% 4T
2.1.2.2.2.4 Slope: 15 to 30% 5T

2.1.2.2.3 Drainage: poor
2.1.2.2.3.1 Slope: 0 to 9% 4MW
2.1.2.2.3.2 Slope: 9 to 15% 5X
2.1.2.2.3.3 Slope: 15 to 30% 5T

2.1.3 Surface material particle size: skeletal-sandy or sandy-gravelly

2.1.3.1 Depth of surface material: >80 cm

2.1.3.1.1 Drainage: rapid
2.1.3.1.1.1 Slope: 0 to 9% 4M
2.1.3.1.1.2 Slope: 9 to 15% 4MT
2.1.3.1.1.3 Slope: 15 to 30% 5T

2.1.3.1.2 Drainage: imperfect
2.1.3.1.2.1 Slope: 0 to 5% 3MW
2.1.3.1.2.2 Slope: 5 to 9% 4X
2.1.3.1.2.3 Slope: 9 to 15% 4T
2.1.3.1.2.4 Slope: 15 to 30% 5T

2.1.3.1.3 Drainage: poor
2.1.3.1.3.1 Slope: 0 to 9% 4MW
2.1.3.1.3.2 Slope: 9 to 15% 5X
2.1.3.1.3.3 Slope: 15 to 30% 5T

(continued)

Table 6. Soil capability for agriculture key (continued)

2.2 Subsoil particle size: sandy

2.2.1 Surface material particle size: sandy-fine

2.2.1.1 Depth of surface material: 50 to 80 cm

2.2.1.1.1 Drainage: well
- 2.2.1.1.1.1 Slope: 0 to 5% 2C
- 2.2.1.1.1.2 Slope: 5 to 9% 3T
- 2.2.1.1.1.3 Slope: 9 to 15% 4T
- 2.2.1.1.1.4 Slope: 15 to 30% 5T

2.2.1.1.2 Drainage: imperfect
- 2.2.1.1.2.1 Slope: 0 to 2% 3W
- 2.2.1.1.2.2 Slope: 2 to 5% 2C
- 2.2.1.1.2.3 Slope: 5 to 9% 3T
- 2.2.1.1.2.4 Slope: 9 to 15% 4T
- 2.2.1.1.2.5 Slope: 15 to 30% 5T

2.2.1.1.3 Drainage: poor
- 2.2.1.1.3.1 Slope: 0 to 2% 5W
- 2.2.1.1.3.2 Slope: 2 to 5% 3W
- 2.2.1.1.3.3 Slope: 5 to 9% 3TW
- 2.2.1.1.3.4 Slope: 9 to 15% 4T
- 2.2.1.1.3.5 Slope: 15 to 30% 5T

2.2.2 Surface material particle size: sandy

2.2.2.1 Depth of surface material: >80 cm
(ortstein soils are included here)

2.2.2.1.1 Drainage: rapid
- 2.2.2.1.1.1 Slope: 0 to 5% 3M
- 2.2.2.1.1.2 Slope: 5 to 9% 3MT
- 2.2.2.1.1.3 Slope: 9 to 15% 4T
- 2.2.2.1.1.4 Slope: 15 to 30% 5T

2.2.2.1.2 Drainage: imperfect
- 2.2.2.1.2.1 Slope: 0 to 5% 3MW
- 2.2.2.1.2.3 Slope: 5 to 9% 4X
- 2.2.2.1.2.4 Slope: 9 to 15% 4T
- 2.2.2.1.2.5 Slope: 15 to 30% 5T

2.2.2.1.3 Drainage: poor
- 2.2.2.1.3.1 Slope: 0 to 2% 5W
- 2.2.2.1.3.2 Slope: 2 to 5% 3W
- 2.2.2.1.3.3 Slope: 5 to 9% 3TW
- 2.2.2.1.3.4 Slope: 9 to 15% 4T
- 2.2.2.1.3.5 Slope: 15 to 30% 5T

(continued)

Table 6. Soil capability for agriculture key (continued)

2.3 Subsoil particle size: sandy-fine

2.3.1 Surface material particle size: sandy-fine

2.3.1.1 Depth of surface material: >80 cm

2.3.1.1.1 Drainage: well
- 2.3.1.1.1.1 Slope: 0 to 5% 2C
- 2.3.1.1.1.2 Slope: 5 to 9% 3T
- 2.3.1.1.1.3 Slope: 9 to 15% 4T
- 2.3.1.1.1.4 Slope: 15 to 30% 5T

2.3.1.1.2 Drainage: imperfect
- 2.3.1.1.2.1 Slope: 0 to 2% 3W
- 2.3.1.1.2.2 Slope: 2 to 5% 2C
- 2.3.1.1.2.3 Slope: 5 to 9% 3T
- 2.3.1.1.2.4 Slope: 9 to 15% 4T
- 2.3.1.1.2.5 Slope: 15 to 30% 5T

2.3.1.1.3 Drainage: poor
- 2.3.1.1.3.1 Slope: 0 to 2% 5W
- 2.3.1.1.3.2 Slope: 2 to 5% 3W
- 2.3.1.1.3.3 Slope: 5 to 9% 3TW
- 2.3.1.1.3.4 Slope: 9 to 15% 4T
- 2.3.1.1.3.5 Slope: 15 to 30% 5T

2.3.2 Surface material particle size: coarse loamy

2.3.2.1 Depth of surface material: 20-80 cm
(ortstein soils included here)

2.3.2.1.1 Drainage: well
- 2.3.2.1.1.1 Slope: 0 to 5% 2C
- 2.3.2.1.1.2 Slope: 5 to 9% 3T
- 2.3.2.1.1.3 Slope: 9 to 15% 4T
- 2.3.2.1.1.4 Slope: 15 to 30% 5T

2.3.2.1.2 Drainage: imperfect
- 2.3.2.1.2.1 Slope: 0 to 2% 3W
- 2.3.2.1.2.2 Slope: 2 to 5% 2C
- 2.3.2.1.2.3 Slope: 5 to 9% 3T
- 2.3.2.1.2.4 Slope: 9 to 15% 4T
- 2.3.2.1.2.5 Slope: 15 to 30% 5T

(continued)

Table 6. Soil capability for agriculture key (continued)

2.3.2.1.3 Drainage: poor
2.3.2.1.3.1 Slope: 0 to 2% 5W
2.3.2.1.3.2 Slope: 2 to 5% 3W
2.3.2.1.3.3 Slope: 5 to 9% 3TW
2.3.2.1.3.4 Slope: 9 to 15% 4T
2.3.2.1.3.5 Slope: 15 to 30% 5T

2.3.3 Surface material particle size: sandy

2.3.3.1 Depth of surface material: 50-80 cm

2.3.3.1.1 Drainage: well
2.3.3.1.1.1 Slope: 0 to 5% 3M
2.3.3.1.1.2 Slope: 5 to 9% 3MT
2.3.3.1.1.3 Slope: 9 to 15% 4T
2.3.3.1.1.4 Slope: 15 to 30% 5T

2.3.3.1.2 Drainage: imperfect
2.3.3.1.2.1 Slope: 0 to 5% 3MW
2.3.3.1.2.3 Slope: 5 to 9% 4X
2.3.3.1.2.4 Slope: 9 to 15% 4T
2.3.3.1.2.5 Slope: 15 to 30% 5T

2.3.3.1.3 Drainage: poor
2.3.3.1.3.1 Slope: 0 to 2% 5W
2.3.3.1.3.2 Slope: 2 to 5% 3W
2.3.3.1.3.3 Slope: 5 to 9% 3TW
2.3.3.1.3.4 Slope: 9 to 15% 4T
2.3.3.1.3.5 Slope: 15 to 30% 5T

3. Mode of deposition: Lacustrine

3.1 Subsoil particle size: fine loamy

3.1.1 Surface material particle size: fine loamy

3.1.1.1 Depth of surface material: >80 cm

3.1.1.1.2 Drainage: imperfect
3.1.1.1.2.1 Slope: 0 to 5% 4DW

3.1.1.1.3 Drainage: poor
3.1.1.1.3.1 Slope: 0 to 5% 5DW

(continued)

Table 6. Soil capability for agriculture key (continued)

3.1.2 Surface material particle size: coarse loamy

3.1.2.1 Depth of surface material: 50 to 80 cm

3.1.2.1.1 Drainage: moderately well
3.1.2.1.1.1 Slope: 0 to 5% 2C

3.1.2.1.2 Drainage: imperfect
3.1.2.1.2.1 Slope: 0 to 2% 3W
3.1.2.1.2.2 Slope: 2 to 5% 2C

3.1.2.1.3 Drainage: poor
3.1.2.1.3.1 Slope: 0 to 2% 5W
3.1.2.1.3.2 Slope: 2 to 5% 3W

3.1.3 Surface material particle size: sandy or sandy-fine

3.1.3.1 Depth of surface material: 50 to 80 cm

3.1.3.1.1 Drainage: moderately well
3.1.3.1.1.1 Slope: 0 to 5% 3M

3.1.3.1.2 Drainage: imperfect
3.1.3.1.2.1 Slope: 0 to 5% 3MW

3.1.3.1.3 Drainage: poor
3.1.3.1.3.1 Slope: 0 to 2% 5W
3.1.3.1.3.2 Slope: 2 to 5% 3W

4. Mode of deposition: Alluvium

4.1 Subsoil particle size: fine loamy or coarse loamy

4.1.1 Surface material particle size: any

4.1.1.1 Depth of surface material: any

4.2.1.1.1 Drainage: well
4.2.1.1.1.1 Slope: 0 to 5% 3I

4.2.1.1.2 Drainage: imperfect
4.2.1.1.2.1 Slope: 0 to 5% 4IW

4.2.1.1.3 Drainage: poor
4.2.1.1.3.1 Slope: 0 to 5% 5IW

(continued)

Table 6. Soil capability for agriculture key (continued)

5. Mode of deposition: Marine

5.1 Subsoil particle size: fine loamy or coarse loamy

5.1.1 Surface material particle size: any

5.1.1.1 Depth of surface material: >80 cm

5.1.1.1.1 Drainage: moderately well
5.1.1.1.1.1 Slope: 0 to 5% 2C

5.1.1.1.2 Drainage: imperfect
5.1.1.1.2.1 Slope: 0 to 5% 3DW

5.1.1.1.3 Drainage: poor
5.1.1.1.3.1 Slope: 0 to 5% 4DW

For surface stoniness, apply the following rules:

Original Rating from key	Map unit Stoniness class	Adjusted Final CLI rating
2	S3	3P
3 one subclass	S3	3P + subclass *
3 two subclasses	S3	4X
2, 3, or 4	S4	5P
5 one subclass	S4	5P + subclass *
5 two subclasses	S4	7X
2, 3, 4, or 5	S5	7P
7 one subclass	S5	7P + subclass *
7 two subclasses	S5	NO CHANGE

* exclude if subclass='X'

Soil suitability for selected crops

Guidelines for assessing soil suitability for seven crops are given in Tables 7 to 13. The degree of suitability (good, fair, poor or unsuitable) is determined by the most restrictive soil factor(s). For example, if the degree of suitability is "good" for all but one soil factor, and that factor has a degree of suitability of "poor", then the rating of the soil is "poor" with a single subclass to show the limitation. If two factors are rated "poor" then both limitations are shown in the subclass.

Limitations can have a cumulative effect for "fair" and "poor" ratings. If three or more properties are rated as such, then the overall rating for the soil is downgraded one class and the limitation is "x".

Suitability class ratings

Evaluation of soil suitability for growing agricultural crops is based on internal and external soil characteristics only. Four soil suitability classes are used to evaluate both mineral and organic soil map units.

Good (G). Soils in their present state have few or minor limitations that affect crop production. Limitations that are present can be easily overcome.

Fair (F). Soils in their present state have one or two moderate limitations that affect crop production. These can be overcome with special management or soil improvement measures.

Poor (P). Soils in their present state have one or two severe limitations which affect crop production. These can be overcome only with difficult and costly soil improvement or very careful management.

Unsuitable (U). Soils in their present state have one or more features that are so limiting that improvement efforts would be considered economically impractical.

Suitability subclass definitions

Depth of friable soil material (a). This is the available rooting depth. Rooting depth is controlled by subsoil layers which act as barriers to root penetration. Compact till, ortstein layers and fragipan layers are examples.

Particle size (b). Particle size distribution refers to grain size - how much sand, silt, clay and coarse fragments are present. Particle size affects moisture retention characteristics, trafficablility, surface crusting characteristics, and the rate at which water moves through soil.

Flooding (c). Flooding occurs when water overflows the natural or artificial confines of a stream or other body of water and accumulates on adjacent land areas. Flooding at any time of the year is hazardous to the survival and growth of perennial crops. Flooding during the growing season can be hazardous to the growth and survival of annual crops and can hinder planting and harvesting operations. Flooding can damage soils by eroding valuable topsoil and the eroded sediments can pollute adjacent water resources. The following flooding classes are used to define the relative degrees of flooding.

None (N). Soils are not susceptible to flooding.

Occasional (O). Soils are subjected to flooding of short duration once or twice a year.

Frequent (F). Soils are subjected to flooding of medium duration more than once a year.

Very frequent (VF). Soils are subjected to prolonged flooding every year.

Surface stoniness (d). Rock fragments in the topsoil interfere with the efficient operation of farm machinery for cultivation, seedbed preparation and harvesting. The degree of limitation which stones impose is related to their number, size and spacing at the soil surface.

Classes are defined in terms of the amount of surface stones greater than 25 cm in diameter (or greater than 38 cm if flat) and their spacing. Classes are as follows:

Class code	Class name	Surface covered (%)	Distance between stones (m)
0	Nonstony	<.01	>25
1	Slightly stony	0.01-0.1	8-25
2	Moderately stony	0.1-3	1-8
3	Very stony	3-15	0.5-1
4	Exceedingly stony	15-50	0.1-0.5
5	Excessively stony	>50	<0.1

Rockiness Class (e). Rockiness refers to bedrock outcropping at the earth's surface. Bedrock outcrops are incapable of supporting crops and interfere with the efficient operation of farm machinery. The classes are distinguished on the percent surface area covered by exposed bedrock as follows:

Class code	Class name	Surface covered (%)	Distance Between outcrops (m)
0	Nonrocky	<2	>100
1	Slightly rocky	2-10	35-100
2	Moderately rocky	10-25	10-35
3	Very rocky	25-50	3.5-10
4	Exceedingly rocky	50-90	<3.5
5	Excessively rocky	>90	

Slope. This is steepness of slope reported in percent. Slope affects the safe use of farm machinery and the surface drainage of excess water through run-off. On sloping cultivated fields, run-off is a major component in the process of soil erosion. On nearly level slopes, run-off may be insufficient to prevent the ponding of surface water.

The slope class of a map unit refers to the slope range which best describes the general slope within that unit. Classes are as follows:

Class	Slope (%)	Description
B	0 - 2	Level to nearly level
C	2 - 5	Very gentle slopes
D	5 - 9	Gentle slopes
E	9 - 15	Moderate slopes
F	15 - 30	Strong slopes
G	30 - 45	Very strong slopes

Soil Drainage (g). Soil drainage refers to the rapidity and extent of removal of water from a soil in relation to additions. It is affected by several factors acting separately or in combination, including texture, structure, slope gradient, length of slope, water holding capacity and evapotranspiration. Excess soil water adversely affects crop growth and the trafficability of farm machinery. Wet soils are slow to warm up in spring and have poor aeration. Rapidly drained soils are prone to drought. The following classes are defined in terms of available water storage capacity and source of water.

Rapidly drained (R). Water is removed rapidly in relation to supply. Excess water flows downward if underlying material is pervious. Subsurface flow may occur on steep gradients during heavy rainfall. Soils have low available water storage capacity within 1 m and are usually coarse textured, or shallow, or both. Water source is precipitation.

Well drained (W). Water is removed from the soil readily but not rapidly. Excess water flows downward readily into underlying pervious material or laterally as subsurface flow. Soils have intermediate available water storage capacity within 1 meter, and are generally intermediate in depth and texture. Water source is precipitation. On slopes, subsurface flow may occur for short durations but additions equal losses.

Moderately well drained (MW). Water is removed from the soil somewhat slowly in relation to supply because of low soil permeability, shallow water table, lack of gradient, or some combination of these. Soils have intermediate to high water storage capacity within 1 m and are usually medium to fine textured. Precipitation is the dominant water source in medium to fine textured soils. Precipitation and significant additions by subsurface flow are necessary in coarse textured soils.

Imperfectly drained (I). Water is removed from the soil sufficiently slowly in relation to supply to keep the soil wet for a significant part of the growing season. Excess water moves slowly downward if precipitation is the major source. If subsurface water or groundwater, or both, is the main source, the flow rate may vary but the soil remains wet for a significant part of the growing season. Precipitation is the main water source if the available water capacity is high. Contributions by subsurface flow or groundwater flow, or both, increases as available water storage capacity decreases. Soils have a wide range in available water supply, texture, and depth.

Poorly drained (P). Water is removed so slowly in relation to supply that the soil remains wet for a large part of the time the soil is not frozen. Excess water is evident in the soil for a large part of the growing season. Subsurface flow or groundwater flow or both, and precipitation are the main water sources. There may also be a perched water table. Soils have a wide range in available water storage capacity, texture and depth.

Very poorly drained (VP). Water is removed from the soil so slowly that the water table remains at or on the surface for the greater part of the time the soil is not frozen. Excess water is present in the soil for the greater part of the growing season. Groundwater flow and subsurface flow are the major water sources. Precipitation is less important except where there is a perched water table with precipitation exceeding evapotranspiration. Soils have a wide range in available water storage capacity, texture and depth.

Table 7. Soil suitability for alfalfa

Soil factors (symbol)	Degree of suitability			
	Good	Fair	Poor	Unsuitable
Depth of friable soil in cm (a)	>50	---	20-50	<20
Particle size of friable soil (b)	2,3	0,1 4,7	5	6,8,9
Flooding (c)	N	---	O	F,VF
Stoniness (d)	0-1	2	3	4-5
Rockiness (e)	0	1	---	2-5
Slope (f)	C,D	B,E	F	G
Drainage (g)	W	MW,R	I	P,VP

Modified from: Holmstrom 1986.

Table 8. Soil suitability for apples

Soil factors (symbol)	Degree of suitability			
	Good	Fair	Poor	Unsuitable
Depth of friable soil in cm (a)	>80	50-80	20-50	<20
Particle size of friable soil (b)	2,3,4	5,7	0,1	9,6,8
Flooding (c)	N	---	---	O,F,VF
Stoniness (d)	0-2	3	---	4-5
Rockiness (e)	0	1	---	2-5
Slope (f)	B,C,D	E	F	G
Drainage (g)	W	MW,R	I	P,VP

Modified from: Michalica 1983 and Webster, D. Kentville Research Station, N.S. personal comm.

Table 9. Soil suitability for spring cereals

Soil factors (symbol)	Degree of suitability			
	Good	Fair	Poor	Unsuitable
Depth of friable soil in cm (a)	>50	20-50	---	<20
Particle size of friable soil (b)	2,3,4	(0,1)[1] 5	6,7	8,9
Flooding (c)	N	O	F	VF
Stoniness (d)	0-1	2	3	4-5
Rockiness (e)	0	1	---	2-5
Slope (f)	B,C	D	E	F,G
Drainage (g)	W,MW	I,R	P	VP

Modified from: Holmstrom 1986.
[1]Downgrade one class if drainage is imperfect

Table 10. Soil suitability for winter cereals

Soil factors (symbol)	Degree of suitability			
	Good	Fair	Poor	Unsuitable
Depth of friable soil in cm (a)	>50	---	20-50	<20
Particle size of friable soil (b)	2,3,4	5	0,1 6,7	8,9
Flooding (c)	N	O	F	VF
Stoniness (d)	0-1	2	3	4-5
Rockiness (e)	0	1	---	2-5
Slope (f)	C	D,B	E	F,G
Drainage (g)	R,W,MW	I	P	VP

Modified from: Holmstrom 1986.

Table 11. Soil suitability for corn

Soil factors (symbol)	Degree of suitability			
	Good	Fair	Poor	Unsuitable
Depth of friable soil in cm (a)	>50	20-50	---	<20
Particle size of friable soil (b)	2,3	(0,1)[1] 4	5,6,7	8,9
Flooding (c)	N	O	F	VF
Stoniness (d)	0-1	2	3	4-5
Rockiness (e)	0	1	---	2-5
Slope (f)	B	C	D	E,F,G
Drainage (g)	W,MW	I,R	P	VP

Modified from: Wang and Rees 1983.
[1]Downgrade one class if drainage is imperfect

Table 12. Soil suitability for forage

Soil factors (symbol)	Degree of suitability			
	Good	Fair	Poor	Unsuitable
Depth of friable soil in cm (a)	>20	---	---	<20
Particle size of friable soil (b)	2,3,4	0,1 7,5	6,8	9
Flooding (c)	N,O	F	---	VF
Stoniness (d)	0-1	2	3	4-5
Rockiness (e)	0	1	---	2-5
Slope (f)	B,C,D	E	F	G
Drainage (g)	W,MW	I,R	P	VP

Modified from: MacMillan 1983.

Table 13. Soil suitability for vegetables[1]

Soil factors (symbol)	Degree of suitability			
	Good	Fair	Poor	Unsuitable
Depth of friable soil in cm (a)	>50	20-50	---	<20
Particle size of friable soil (b)	2,4,5	(0,1)[2] 3	6,7	8,9
Flooding (c)	N	O	F	VF
Stoniness (d)	0-1	2	3	4-5
Rockiness (e)	0	1	---	2-5
Slope (f)	B	C	D	E,F,G
Drainage (g)	R,W,MW	I	P	VP

Modified from: Wang and Rees 1983.
[1]Irrigation is assumed
[2]Downgrade one class if drainage is imperfect

Ratings

The interpretations in Table 15 were output from dBase III+ computer programs which followed the guidelines presented in Tables 6 to 13. Steps in the process were as follows:

1. A list of soil map unit names was produced from the maps.

2. For each map unit, the attribute values for the first soil, second soil and landscape features were entered. The soil attributes are shown in Table 14; landscape attributes are imbedded in the map unit symbol (see Soil and map unit naming convention).

3. The appropriate program was run (e.g. forages, CLI, etc.) against the map units to produce crop ratings.

4. The results were formatted and printed.

Table 14. Soil attributes used for interpretations

Soil	Potential rooting depth (cm)	Drainage	Flooding	Mode of deposition	PSD of lower soil material
ACA	90	I	N	MARI	FNL
AVP52	60	MW	N	LACU	FNL
AVP54	60	MW	N	LACU	FNL
AVP82	90	MW	N	LACU	FNL
BGE	90	I	F	FLUV	COL
CAA21	40	P	N	TILL	ROCK
CAA23	40	P	N	TILL	ROCK
CAA27	40	P	N	TILL	ROCK
CAA51	60	P	N	TILL	ROCK
CAA52	60	P	N	TILL	ROCK
CAA53	60	P	N	TILL	ROCK
CAA57	60	P	N	TILL	ROCK
CBR	90	W	O	FLUV	COL
CGN	90	P	N	MARI	FNL
CHW	90	P	VF	FLUV	COL
CMU22	90	I	N	GLFL	SK-S
CMU23	90	I	N	GLFL	SK-S
CMU52	90	I	N	GLFL	SK-S
CMU53	90	I	N	GLFL	SK-S
CMU54	90	I	N	GLFL	SK-S
CMU55	90	I	N	GLFL	SK-S
CMU83	90	I	N	GLFL	SK-S
CMU86	90	I	N	GLFL	SK-S
CMU88	90	I	N	GLFL	SK-S

(continued)

Table 14. Soil attributes used for interpretations (continued)

Soil	Potential rooting depth (cm)	Drainage	Flooding	Mode of deposition	PSD of lower soil material
CNW54	90	R	N	GLFL	S-M
CNW85	90	R	N	GLFL	S-M
CNWX5	90	R	N	GLFL	S-M
CSY	90	VP	VF	ORGA	ORGA
CSY5P	60	VP	VF	ORGA	ORGA
CSY8P	90	VP	VF	ORGA	ORGA
CYF	90	I	F	FLUV	FNL
DFN	90	VP	VF	ORGA	ORGA
DFN5P	60	VP	VF	ORGA	ORGA
DFN8P	90	VP	VF	ORGA	ORGA
DRT22	40	I	N	TILL	COL
DRT52	60	I	N	TILL	COL
DRT82	90	I	N	TILL	COL
ECY22	40	P	N	TILL	COL-G
ECY23	40	P	N	TILL	COL-G
ECY52	60	P	N	TILL	COL-G
ECY53	60	P	N	TILL	COL-G
ECY55	60	P	N	TILL	COL-G
ECY83	90	P	N	TILL	COL-G
FAC23	90	I	N	TILL	SK-L
FAC53	90	I	N	TILL	SK-L
FAC87	90	I	N	TILL	SK-L
FSH52	60	I	N	LACU	FNL
FSH54	60	I	N	LACU	FNL
FSH55	60	I	N	LACU	FNL
FSH80	60	I	N	LACU	FNL
FUH20	40	MW	N	TILL	FNL
FUH22	40	MW	N	TILL	FNL
FUH50	60	MW	N	TILL	FNL
FUH52	60	MW	N	TILL	FNL
FUH53	60	MW	N	TILL	FNL
FUH80	90	MW	N	TILL	FNL
GNH52	90	P	N	GLFL	S-F
GNH84	90	P	N	GLFL	S-F
GNHX2	90	P	N	GLFL	S-F
GPR	90	MW	N	MARI	COL
HBT22	90	R	N	GLFL	SK-S
HBT23	90	R	N	GLFL	SK-S
HBT52	90	W	N	GLFL	SK-S
HBT53	90	W	N	GLFL	SK-S
HBT54	90	R	N	GLFL	SK-S
HBT55	90	R	N	GLFL	SK-S
HBT86	90	R	N	GLFL	SK-S
HBT88	90	R	N	GLFL	SK-S

(continued)

Table 14. Soil attributes used for interpretations (continued)

Soil	Potential rooting depth (cm)	Drainage	Flooding	Mode of deposition	PSD of lower soil material
HBTX3	90	R	N	GLFL	SK-S
HBTX8	90	R	N	GLFL	SK-S
HFD22	40	MW	N	TILL	COL-G
HFD23	40	MW	N	TILL	COL-G
HFD50	60	MW	N	TILL	COL-G
HFD52	60	W	N	TILL	COL-G
HFD53	60	W	N	TILL	COL-G
HFD83	90	W	N	TILL	COL-G
HTP20	40	I	N	TILL	FNL-G
HTP21	40	I	N	TILL	FNL-G
HTP22	40	I	N	TILL	FNL-G
HTP23	40	I	N	TILL	FNL-G
HTP50	60	I	N	TILL	FNL-G
HTP51	60	I	N	TILL	FNL-G
HTP52	60	I	N	TILL	FNL-G
HTP53	60	I	N	TILL	FNL-G
KGP54	90	I	N	GLFL	S-M
KGP85	90	I	N	GLFL	S-M
KGPX5	90	I	N	GLFL	S-M
KSV20	40	P	N	TILL	FNL
KSV22	40	P	N	TILL	FNL
KSV52	60	P	N	TILL	FNL
LWR52	60	P	N	LACU	FNL
LWR54	60	P	N	LACU	FNL
LWR55	60	P	N	LACU	FNL
LWR80	60	P	N	LACU	FNL
MGA23	90	P	N	GLFL	SK-S
MGA52	90	P	N	GLFL	SK-S
MGA53	90	P	N	GLFL	SK-S
MGA83	90	P	N	GLFL	SK-S
MHO20	40	P	N	TILL	FNL-G
MHO21	40	P	N	TILL	FNL-G
MHO22	40	P	N	TILL	FNL-G
MHO23	40	P	N	TILL	FNL-G
MHO50	60	P	N	TILL	FNL-G
MHO51	60	P	N	TILL	FNL-G
MHO52	60	P	N	TILL	FNL-G
MHO53	60	P	N	TILL	FNL-G
MLL85	90	P	N	GLFL	S-M
MRW23	40	W	N	TILL	SK-L
MRW53	60	W	N	TILL	SK-L
MRW87	90	W	N	TILL	SK-L
MSW22	40	P	N	TILL	COL
MSW50	60	P	N	TILL	COL

(continued)

Table 14. Soil attributes used for interpretations (continued)

Soil	Potential rooting depth (cm)	Drainage	Flooding	Mode of deposition	PSD of lower soil material
MSW52	60	P	N	TILL	COL
MSW82	90	P	N	TILL	COL
NTV23	40	P	N	TILL	SK-L
NTV53	60	P	N	TILL	SK-L
NTV87	90	P	N	TILL	SK-L
OSW52	90	I	N	GLFL	S-F
OSW84	90	I	N	GLFL	S-F
OSWX2	90	I	N	GLFL	S-F
PGW22	40	MW	N	TILL	COL
PGW52	60	W	N	TILL	COL
PGW82	90	W	N	TILL	COL
QUE20	40	I	N	TILL	FNL
QUE22	40	I	N	TILL	FNL
QUE50	60	I	N	TILL	FNL
QUE52	60	I	N	TILL	FNL
QUE53	60	I	N	TILL	FNL
RGO5P	60	VP	VF	ORGA	ORGA
RGO8P	90	VP	VF	ORGA	ORGA
SGL22	40	I	N	TILL	COL-G
SGL23	40	I	N	TILL	COL-G
SGL52	60	I	N	TILL	COL-G
SGL53	60	I	N	TILL	COL-G
SGL83	90	I	N	TILL	COL-G
SHN21	40	W	N	TILL	ROCK
SHN23	40	W	N	TILL	ROCK
SHN27	40	W	N	TILL	ROCK
SHN50	60	W	N	TILL	ROCK
SHN51	60	W	N	TILL	ROCK
SHN53	60	W	N	TILL	ROCK
SHN57	60	W	N	TILL	ROCK
STW	90	P	VF	FLUV	FNL
TUO52	90	W	N	GLFL	S-F
TUO55	90	R	N	GLFL	S-F
TUO84	90	W	N	GLFL	S-F
TUOX2	90	W	N	GLFL	S-F
TUOX4	90	W	N	GLFL	S-F
VRN21	40	I	N	TILL	ROCK
VRN23	40	I	N	TILL	ROCK
VRN27	40	I	N	TILL	ROCK
VRN50	60	I	N	TILL	ROCK
VRN51	60	I	N	TILL	ROCK
VRN52	60	I	N	TILL	ROCK
VRN53	60	I	N	TILL	ROCK
VRN57	60	I	N	TILL	ROCK

(continued)

Table 14. Soil attributes used for interpretations (continued)

Soil	Potential rooting depth (cm)	Drainage	Flooding	Mode of deposition	PSD of lower soil material
WOB21	40	MW	N	TILL	FNL-G
WOB22	40	MW	N	TILL	FNL-G
WOB23	40	MW	N	TILL	FNL-G
WOB50	60	MW	N	TILL	FNL-G
WOB51	60	MW	N	TILL	FNL-G
WOB52	60	MW	N	TILL	FNL-G
WOB53	60	MW	N	TILL	FNL-G

Table 15. Map unit interpretations

Soil map unit	Alfalfa	Apples	Spring Cereals	Winter Cereals	Corn	Forage	Vegetables	CLI (Agr.)
ACA / B	Pg	Pg	Fg	Ffg	Fg	Fg	Fg	3DW
BGE / B	Uc	Uc	Pc	Pc	Pc	Fcg	Pc	4IW
BGE =CBR / B	Pc =Uc	Uc	Fc =Pc	Fcf=Pc	Fc =Pc	G =Fcg	Fc =Pc	3I =4IW
BGE =CHW / B	Uc =Ucg	Uc =Ucg	Pc =Uc	Pc =Uc	Pc =Uc	Fcg=Uc	Pc =Uc	4IW=5IW
CAA23 /1B2	Ug	Ug	Pg	Pag	Pg	Pg	Pg	5RW
CAA23 /1C2	Ug	Ug	Pg	Pag	Pg	Pg	Pg	5RW
CAA23=VRN23/1C2	Pag=Ug	Pag=Ug	Pg =Px	Pa =Pag	Pg =Px	Pg =Px	Pg =Px	5R =5RW
CBR / B	Pc	Uc	Fc	Fcf	Fc	G	Fc	3I
CHW / B	Ucg	Ucg	Uc	Uc	Uc	Uc	Uc	5IW
CMU53 / B	Pg	Pg	Fg	Ffg	Fg	Fg	Fbg	3W
CMU53 / C	Fg	Fg	G	G	Ff	G	Fbf	2C
CMU53 / D	Fg	Fg	Ff	Ff	Pf	G	Pf	3T
CNW85 / B	Pb	Fbg	Fbg	Fbf	Pb	Fbg	G	3M
CNW85 / C	Pb	Fbg	Fbg	Fb	Pb	Fbg	Ff	3M
CNW85 / D	Pb	Fbg	Px	Fbf	Pbf	Fbg	Pf	3MT
CNW85 / E	Pb	Px	Pf	Pf	Uf	Px	Uf	4T
CNW85=HBT86/ B	Pb =Ub	Fbg=Ub	Fbg=Pb	Fbf=Pb	Pb	Fbg=Pb	G =Pb	3M =4M
CNW85=HBT86/ C	Pb =Ub	Fbg=Ub	Fbg=Pb	Fb =Pb	Pb	Fbg=Pb	Ff =Pb	3M =4M
CNW85=HBT86/ D	Pb =Ub	Fbg=Ub	Pb =Px	Fbf=Pb	Pbf	Fbg=Pb	Pbf=Pf	3MT=4M
CNW85=HBT86/ E	Pb =Ub	Px =Ub	Pbf=Pf	Pbf=Pf	Uf	Pb =Px	Uf	4MT=4T
CNW85=KGP85/ B	Pb =Pbg	Fbg=Pg	Fbg	Fbf=Px	Pb	Fbg	G =Fg	3M =3MW
CNW85=KGP85/ C	Pb	Fbg	Fb =Fbg	Fb	Pb	Fb =Fbg	Ff	3M =3MW
CNW85=PGW52/ C	G =Pb	Fa =Fbg	G =Fbg	G =Fb	Ff =Pb	G =Fbg	Ff	2C =3M
CNW85=PGW52/ D	G =Pb	Fa =Fbg	Ff =Px	Fbf=Ff	Pbf=Pf	G =Fbg	Pf	3MT=3T
CNW85=PGW82/ C	G =Pb	G =Fbg	G =Fbg	G =Fb	Ff =Pb	G =Fbg	Ff	2C =3M
CNW85=PGW82/ D	G =Pb	G =Fbg	Ff =Px	Fbf=Ff	Pbf=Pf	G =Fbg	Pf	3MT=3T
CNW85=TUO84/ B	Fbf=Pb	G =Fbg	G =Fbg	Fbf=Ff	Fb =Pb	G =Fbg	G	2C =3M
CNW85=TUO84/ C	Fb =Pb	G =Fbg	G =Fbg	G =Fb	Fbf=Pb	G =Fbg	Ff	2C =3M
CNW85=TUO84/ D	Fb =Pb	G =Fbg	Ff =Px	Fbf=Ff	Pbf=Pf	G =Fbg	Pf	3MT=3T
CNW85>CNWX5/ B	Pb	Fbg	Fbg	Fbf	Pb	Fbg	G	3M
CNW85>CNWX5/ C	Pb	Fbg	Fbg	Fb	Pb	Fbg	Ff	3M
CNW85>HBT86/ C	Pb >Ub	Fbg>Ub	Fbg>Pb	Fb >Pb	Pb	Fbg>Pb	Ff >Pb	3M >4M
CNW85>HBT86/ D	Pb >Ub	Fbg>Ub	Px >Pb	Fbf>Pb	Pbf	Fbg>Pb	Pf >Pbf	3MT>4M
CNW85>HBT86/ E	Pb >Ub	Px >Ub	Pf >Pbf	Pf >Pbf	Uf	Px >Pb	Uf	4T >4MT
CNW85>KGP85/ B	Pb >Pbg	Fbg>Pg	Fbg	Fbf>Px	Pb	Fbg	G >Fg	3M >3MW
CNW85>KGP85/ C	Pb	Fbg	Fbg>Fb	Fb	Pb	Fbg>Fb	Ff	3M >3MW
CNW85>KGP85/ D	Pb	Fbg	Px >Fbf	Fbf	Pbf	Fbg>Fb	Pf	3MT>4X
CNW85>OSW84/ B	Pb >Pg	Fbg>Pg	Fbg>Fg	Fbf>Ffg	Pb >Fbg	Fbg>Fg	G >Fg	3M >3W
CNW85>OSW84/ C	Pb >Fbg	Fbg>Fg	Fbg>G	Fb >G	Pb >Fbf	Fbg>G	Ff	3M >2C
CNW85>PGW52/ C	Pb >G	Fbg>Fa	Fbg>G	Fb >G	Pb >Ff	Fbg>G	Ff	3M >2C
CNW85>PGW52/ D	Pb >G	Fbg>Fa	Px >Ff	Fbf>Ff	Pbf>Pf	Fbg>G	Pf	3MT>3T
DFN8P / B	Ucg	Ucg	Ucg	Ucg	Ucg	Ucg	Ucg	0
DRT22 / B	Pag	Pag	Fag	Pa	Fag	Fg	Fag	4W
DRT22 / C	Pa	Pa	Fa	Pa	Faf	G	Faf	3D
DRT22 / D	Pa	Pa	Faf	Pa	Pf	G	Pf	3DT
DRT22=PGW52/ B	Ff =Pag	Fa =Pag	G =Fag	Ff =Pa	G =Fag	G =Fg	G =Fag	2C =4W

(continued)

Table 15. Map unit interpretations (continued)

Soil map unit	Alfalfa	Apples	Spring Cereals	Winter Cereals	Corn	Forage	Vegetables	CLI (Agr.)
DRT22=PGW52/ C	G =Pa	Fa =Pa	G =Fa	G =Pa	Faf=Ff	G	Faf=Ff	2C =3D
DRT22=PGW52/ D	G =Pa	Fa =Pa	Faf=Ff	Ff =Pa	Pf	G	Pf	3DT=3T
DRT22=PGW52/ E	Ff =Pa	Faf=Pa	Pf	Paf=Pf	Uf	Ff	Uf	4T
DRT22=QUE22/ C	Pa	Pa	Fa	Pa	Faf	G	Faf	3D
DRT22=QUE22/ D	Pa	Pa	Faf	Pa	Pf	G	Pf	3DT
DRT22>MSW22/ B	Pag>Ug	Pag>Ug	Fag>Pg	Pa >Pag	Fag>Pg	Fg >Pg	Fag>Pg	4W >5W
DRT22>MSW22/ C	Pa >Pag	Pa >Pag	Fa >Fag	Pa	Faf>Px	G >Fg	Faf>Px	3D >4W
DRT52 / B	Pg	Pg	Fg	Ffg	Fg	Fg	Fg	3W
DRT52 / C	Fg	Fag	G	G	Ff	G	Ff	2C
DRT52 / D	Fg	Fag	Ff	Ff	Pf	G	Pf	3T
DRT52 / E	Ffg	Px	Pf	Pf	Uf	Ff	Uf	4T
DRT52=MSW52/ B	Pg =Ug	Pg =Ug	Fg =Pg	Ffg=Pg	Fg =Pg	Fg =Pg	Fg =Pg	3W =5W
DRT52=MSW52/ C	Fg =Pg	Fag=Pg	G =Fg	G =Fg	Ff =Ffg	G =Fg	Ff =Ffg	2C =3W
DRT52=PGW52/ B	Ff =Pg	Fa =Pg	G =Fg	Ff =Ffg	G =Fg	G =Fg	G =Fg	2C =3W
DRT52=PGW52/ C	G =Fg	Fa =Fag	G	G	Ff	G	Ff	2C
DRT52=PGW52/ D	G =Fg	Fa =Fag	Ff	Ff	Pf	G	Pf	3T
DRT52=QUE22/ B	Pag=Pg	Pag=Pg	Fag=Fg	Ffg=Pa	Fag=Fg	Fg	Fag=Fg	3W =4W
DRT52=QUE22/ C	Fg =Pa	Fag=Pa	G =Fa	G =Pa	Faf=Ff	G	Faf=Ff	2C =3D
DRT52=QUE52/ C	Fg	Fag	G	G	Ff	G	Ff	2C
DRT52=QUE52/ D	Fg	Fag	Ff	Ff	Pf	G	Pf	3T
DRT52>MSW22/ C	Fg >Pag	Fag>Pag	G >Fag	G >Pa	Ff >Px	G >Fg	Ff >Px	2C >4W
DRT52>MSW52/ B	Pg >Ug	Pg >Ug	Fg >Pg	Ffg>Pg	Fg >Pg	Fg >Pg	Fg >Pg	3W >5W
DRT52>MSW52/ C	Fg >Pg	Fag>Pg	G >Fg	G >Fg	Ff >Ffg	G >Fg	Ff >Ffg	2C >3W
DRT52>PGW52/ B	Pg >Ff	Pg >Fa	Fg >G	Ffg>Ff	Fg >G	Fg >G	Fg >G	3W >2C
DRT52>PGW52/ C	Fg >G	Fag>Fa	G	G	Ff	G	Ff	2C
DRT52>PGW52/ D	Fg >G	Fag>Fa	Ff	Ff	Pf	G	Pf	3T
DRT52>PGW52/ E	Ffg>Ff	Px >Faf	Pf	Pf	Uf	Ff	Uf	4T
DRT52>QUE22/ C	Fg >Pa	Fag>Pa	G >Fa	G >Pa	Ff >Faf	G	Ff >Faf	2C >3D
DRT82 / B	Pg	Pg	Fg	Ffg	Fg	Fg	Fg	3W
DRT82 / C	Fg	Fg	G	G	Ff	G	Ff	2C
DRT82 / D	Fg	Fg	Ff	Ff	Pf	G	Pf	3T
ECY23 / B	Ug	Ug	Pg	Pag	Pg	Pg	Pg	5W
ECY23 / C	Pag	Pag	Fag	Pa	Px	Fg	Px	4W
ECY23=SGL53/ B	Pg =Ug	Pg =Ug	Fg =Pg	Ffg=Pag	Fg =Pg	Fg =Pg	Fbg=Pg	3W =5W
ECY23=SGL53/ C	Fg =Pag	Fag=Pag	G =Fag	G =Pa	Ff =Px	G =Fg	Fbf=Px	2C =4W
ECY23=SGL53/ D	Fg =Pag	Fag=Pag	Ff =Px	Ff =Pa	Pf	G =Fg	Pf	3T =4W
ECY53 / B	Ug	Ug	Pg	Pg	Pg	Pg	Pg	5W
ECY53 / C	Pg	Pg	Fg	Fg	Ffg	Fg	Px	3W
FAC23 / C2	Pa	Pa	Fad	Pa	Px	Fd	Px	3G
FAC23 / D2	Pa	Pa	Px	Pa	Pf	Fd	Pf	3GT
FAC23=NTV23/ C2	Pa =Pag	Pa =Pag	Fad=Px	Pa	Px	Fd =Fdg	Px	3G =3GW
FAC23>MRW23/ C2	Pa	Pa	Fad	Pa	Px	Fd	Px	3G
FSH52 / B	Pg	Pg	Fg	Ffg	Fg	Fg	Fg	3W
FSH52 / C	Fg	Fag	G	G	Ff	G	Ff	2C
FSH52=LWR52/ B	Pg =Ug	Pg =Ug	Fg =Pg	Ffg=Pg	Fg =Pg	Fg =Pg	Fg =Pg	3W =5W

(continued)

Table 15. Map unit interpretations (continued)

Soil map unit	Alfalfa	Apples	Spring Cereals	Winter Cereals	Corn	Forage	Vegetables	CLI (Agr.)
FSH52>LWR52/ B	Pg >Ug	Pg >Ug	Fg >Pg	Ffg>Pg	Fg >Pg	Fg >Pg	Fg >Pg	3W >5W
FSH52>LWR52/ C	Fg >Pg	Fag>Pg	G >Fg	G >Fg	Ff >Ffg	G >Fg	Ff >Ffg	2C >3W
FSH80 / B	Pg	Pbg	Pb	Pb	Pb	Fbg	Pb	4DW
FSH80 / C	Fbg	Pb	Fb	Pb	Fbf	Fb	Fbf	4DW
FSH80=LWR80/ B	Pg =Ug	Pbg=Ug	Pb =Pg	Pb =Pbg	Pb =Pg	Fbg=Pg	Pb =Pg	4DW=5DW
FSH80>LWR80/ B	Pg >Ug	Pbg>Ug	Pb >Pg	Pb >Pbg	Pb >Pg	Fbg>Pg	Pb >Pg	4DW>5DW
FSH80>LWR80/ C	Fbg>Pg	Pb >Pbg	Fb >Pb	Pb	Fbf>Pb	Fb >Fbg	Fbf>Pb	4DW>5DW
FUH22 / C	Pa	Pa	Fa	Pa	Faf	G	Faf	3D
FUH22 / D	Pa	Pa	Faf	Pa	Pf	G	Pf	3DT
FUH22 / E	Pa	Pa	Pf	Paf	Uf	Ff	Uf	4T
FUH22=QUE22/ C	Pa	Pa	Fa	Pa	Faf	G	Faf	3D
FUH22=QUE22/ D	Pa	Pa	Faf	Pa	Pf	G	Pf	3DT
FUH22>QUE22/ B	Pa >Pag	Pa >Pag	Fa >Fag	Pa	Fa >Fag	G >Fg	Fa >Fag	3D >4W
FUH22>QUE22/ C	Pa	Pa	Fa	Pa	Faf	G	Faf	3D
FUH22>QUE22/ D	Pa	Pa	Faf	Pa	Pf	G	Pf	3DT
FUH22>QUE22/ E	Pa	Pa	Pf	Paf	Uf	Ff	Uf	4T
FUH52 / C	G	Fa	G	G	Ff	G	Ff	2C
FUH52 / D	G	Fa	Ff	Ff	Pf	G	Pf	3T
FUH52 / E	Ff	Faf	Pf	Pf	Uf	Ff	Uf	4T
FUH52>QUE22/ C	G >Pa	Fa >Pa	G >Fa	G >Pa	Ff >Faf	G	Ff >Faf	2C >3D
FUH52>QUE22/ D	G >Pa	Fa >Pa	Ff >Faf	Ff >Pa	Pf	G	Pf	3T >3DT
FUH52>QUE22/ E	Ff >Pa	Faf>Pa	Pf	Pf >Paf	Uf	Ff	Uf	4T
GNH52 / B	Ug	Ug	Pg	Pg	Pg	Pg	Pg	5W
GNH84 / B	Ug	Ug	Pg	Pg	Pg	Pg	Pg	5W
HBT23 / B	Ffg	Fg	Fg	Ff	Fg	Fg	Fb	3M
HBT23 / C	Fg	Fg	Fg	G	Ffg	Fg	Fbf	3M
HBT23 / D	Fg	Fg	Ffg	Ff	Pf	Fg	Pf	3MT
HBT23 / E	Ffg	Ffg	Pf	Pf	Uf	Ffg	Uf	4T
HBT23>CNWX5/ B	Ffg>Pb	Fg >Fbg	Fg >Fbg	Ff >Fbf	Fg >Pb	Fg >Fbg	Fb >G	3M
HBT53 / B	Ff	G	G	Ff	G	G	Fb	2C
HBT53 / C	G	G	G	G	Ff	G	Fbf	2C
HBT53 / D	G	G	Ff	Ff	Pf	G	Pf	3T
HBT53 / E	Ff	Ff	Pf	Pf	Uf	Ff	Uf	4T
HBT53 / F	Pf	Pf	Uf	Uf	Uf	Pf	Uf	5T
HBT53=HBT86/ B	Ff =Ub	G =Ub	G =Pb	Ff =Pb	G =Pb	G =Pb	Fb =Pb	2C =4M
HBT53=HBT86/ C	G =Ub	G =Ub	G =Pb	G =Pb	Ff =Pb	G =Pb	Fbf=Pb	2C =4M
HBT53=HBT86/ D	G =Ub	G =Ub	Ff =Pb	Ff =Pb	Pbf=Pf	G =Pb	Pbf=Pf	3T =4M
HBT53=HFD83/ C	G	G	G	G	Ff	G	Fbf	2C
HBT53=HFD83/ D	G	G	Ff	Ff	Pf	G	Pf	3T
HBT53=HFD83/ E	Ff	Ff	Pf	Pf	Uf	Ff	Uf	4T
HBT53=HFD83/ F	Pf	Pf	Uf	Uf	Uf	Pf	Uf	5T
HBT53>OHU53/ B	Ff >Pg	G >Pg	G >Fg	Ff >Ffg	G >Fg	G >Fg	Fb >Fbg	2C >3W
HBT53>OHU53/ C	G >Fg	G >Fg	G	G	Ff	G	Fbf	2C
HBT53>OHU53/ D	G >Fg	G >Fg	Ff	Ff	Pf	G	Pf	3T
HBT86 / B	Ub	Ub	Pb	Pb	Pb	Pb	Pb	4M

(continued)

Table 15. Map unit interpretations (continued)

Soil map unit	Alfalfa	Apples	Spring Cereals	Winter Cereals	Corn	Forage	Vegetables	CLI (Agr.)
HBT86 / C	Ub	Ub	Pb	Pb	Pb	Pb	Pb	4M
HBT86 / D	Ub	Ub	Pb	Pb	Pbf	Pb	Pbf	4M
HBT86 / E	Ub	Ub	Pbf	Pbf	Uf	Pb	Uf	4MT
HBT86 / F	Ub	Ub	Uf	Uf	Uf	Pbf	Uf	5T
HBT86=HFD83/ C	G =Ub	G =Ub	G =Pb	G =Pb	Ff =Pb	G =Pb	Fbf=Pb	2C =4M
HBT86=HFD83/ D	G =Ub	G =Ub	Ff =Pb	Ff =Pb	Pbf=Pf	G =Pb	Pbf=Pf	3T =4M
HBT86=HFD83/ E	Ff =Ub	Ff =Ub	Pbf=Pf	Pbf=Pf	Uf	Ff =Pb	Uf	4MT=4T
HBT86>CNW85/ B	Ub >Pb	Ub >Fbg	Pb >Fbg	Pb >Fbf	Pb	Pb >Fbg	Pb >G	4M >3M
HBT86>CNW85/ C	Ub >Pb	Ub >Fbg	Pb >Fbg	Pb >Fb	Pb	Pb >Fbg	Pb >Ff	4M >3M
HBT86>CNW85/ D	Ub >Pb	Ub >Fbg	Pb >Px	Pb >Fbf	Pbf	Pb >Fbg	Pbf>Pf	4M >3MT
HBT86>CNW85/ E	Ub >Pb	Ub >Px	Pbf>Pf	Pbf>Pf	Uf	Pb >Px	Uf	4MT>4T
HBT86>CNWX5/ B	Ub >Pb	Ub >Fbg	Pb >Fbg	Pb >Fbf	Pb	Pb >Fbg	Pb >G	4M >3M
HBT86>CNWX5/ E	Ub >Pb	Ub >Px	Pbf>Pf	Pbf>Pf	Uf	Pb >Px	Uf	4MT>4T
HFD23 / C	Pa	Pa	Fa	Pa	Faf	G	Px	3D
HFD23 / D	Pa	Pa	Faf	Pa	Pf	G	Pf	3DT
HFD23=SHN23/ C	Pa	Pa	Fa	Pa	Faf	G	Px	3D =5R
HFD23=SHN23/ D	Pa	Pa	Faf	Pa	Pf	G	Pf	3DT=5R
HFD23>SGL22/ C	Pa	Pa	Fa	Pa	Faf	G	Px >Faf	3D
HFD23>SGL22/ D	Pa	Pa	Faf	Pa	Pf	G	Pf	3DT
HFD52 / C	G	Fa	G	G	Ff	G	Ff	2C
HFD52 / D	G	Fa	Ff	Ff	Pf	G	Pf	3T
HFD52 / E	Ff	Faf	Pf	Pf	Uf	Ff	Uf	4T
HFD52 / F	Pf	Pf	Uf	Uf	Uf	Pf	Uf	5T
HFD52=SGL52/ C	G =Fg	Fa =Fag	G	G	Ff	G	Ff	2C
HFD52=SGL52/ D	G =Fg	Fa =Fag	Ff	Ff	Pf	G	Pf	3T
HFD52=SGL52/ E	Ff =Ffg	Faf=Px	Pf	Pf	Uf	Ff	Uf	4T
HFD52>SGL22/ C	G >Pa	Fa >Pa	G >Fa	G >Pa	Ff >Faf	G	Ff >Faf	2C >3D
HFD52>SGL22/ D	G >Pa	Fa >Pa	Ff >Faf	Ff >Pa	Pf	G	Pf	3T >3DT
HFD52>SGL52/ C	G >Fg	Fa >Fag	G	G	Ff	G	Ff	2C
HFD52>SGL52/ D	G >Fg	Fa >Fag	Ff	Ff	Pf	G	Pf	3T
HFD53 / C	G	Fa	G	G	Ff	G	Fbf	2C
HFD53 / D	G	Fa	Ff	Ff	Pf	G	Pf	3T
HFD53 / E	Ff	Faf	Pf	Pf	Uf	Ff	Uf	4T
HFD53 / F	Pf	Pf	Uf	Uf	Uf	Pf	Uf	5T
HFD53=SGL53/ C	G =Fg	Fa =Fag	G	G	Ff	G	Fbf	2C
HFD53=SGL53/ D	G =Fg	Fa =Fag	Ff	Ff	Pf	G	Pf	3T
HFD53=SGL53/ E	Ff =Ffg	Faf=Px	Pf	Pf	Uf	Ff	Uf	4T
HFD53=SHN23/ C	G =Pa	Fa =Pa	G =Fa	G =Pa	Faf=Ff	G	Fbf=Px	2C =5R
HFD53=SHN23/ D	G =Pa	Fa =Pa	Faf=Ff	Ff =Pa	Pf	G	Pf	3T =5R
HFD53=SHN53/ C	G	Fa	G	G	Ff	G	Fbf	2C =3R
HFD53=SHN53/ D	G	Fa	Ff	Ff	Pf	G	Pf	3RT=3T
HFD53>HTP53/ C	G >Fg	Fa >Fag	G	G	Ff	G	Fbf	2C
HFD53>HTP53/ D	G >Fg	Fa >Fag	Ff	Ff	Pf	G	Pf	3T
HFD53>HTP53/ E	Ff >Ffg	Faf>Px	Pf	Pf	Uf	Ff	Uf	4T
HFD53>HTP53/ F	Pf	Pf	Uf	Uf	Uf	Pf	Uf	5T

(continued)

Table 15. Map unit interpretations (continued)

Soil map unit	Alfalfa	Apples	Spring Cereals	Winter Cereals	Corn	Forage	Vegetables	CLI (Agr.)
HFD53>SGL22/ C	G >Pa	Fa >Pa	G >Fa	G >Pa	Ff >Faf	G	Fbf>Faf	2C >3D
HFD53>SGL22/ D	G >Pa	Fa >Pa	Ff >Faf	Ff >Pa	Pf	G	Pf	3T >3DT
HFD53>SGL53/ C	G >Fg	Fa >Fag	G	G	Ff	G	Fbf	2C
HFD53>SGL53/ D	G >Fg	Fa >Fag	Ff	Ff	Pf	G	Pf	3T
HFD53>SGL53/ E	Ff >Ffg	Faf>Px	Pf	Pf	Uf	Ff	Uf	4T
HFD53>SGL53/ F	Pf	Pf	Uf	Uf	Uf	Pf	Uf	5T
HFD53>SHN23/ C	G >Pa	Fa >Pa	G >Fa	G >Pa	Ff >Faf	G	Fbf>Px	2C >5R
HFD53>SHN53/ C	G	Fa	G	G	Ff	G	Fbf	2C >3R
HFD53>SHN53/ D	G	Fa	Ff	Ff	Pf	G	Pf	3T >3RT
HFD53>SHN53/ E	Ff	Faf	Pf	Pf	Uf	Ff	Uf	4T
HFD53>VRN23/ C	G >Pag	Fa >Pag	G >Fag	G >Pa	Ff >Px	G >Fg	Fbf>Px	2C >5R
HFD53>VRN23/ D	G >Pag	Fa >Pag	Ff >Px	Ff >Pa	Pf	G >Fg	Pf	3T >5R
HFD53>VRN23/ E	Ff >Pag	Faf>Pag	Pf	Pf >Paf	Uf	Ff >Ffg	Uf	4T >5R
HFD83 / C	G	G	G	G	Ff	G	Fbf	2C
HFD83 / D	G	G	Ff	Ff	Pf	G	Pf	3T
HFD83 / E	Ff	Ff	Pf	Pf	Uf	Ff	Uf	4T
HFD83 / F	Pf	Pf	Uf	Uf	Uf	Pf	Uf	5T
HFD83=SHN53/ C	G	G =Fa	G	G	Ff	G	Fbf	2C =3R
HFD83=SHN53/ D	G	G =Fa	Ff	Ff	Pf	G	Pf	3RT=3T
HFD83=SHN53/ E	Ff	Faf=Ff	Pf	Pf	Uf	Ff	Uf	4T
HFD83>HTP53/ C	G >Fg	G >Fag	G	G	Ff	G	Fbf	2C
HFD83>HTP53/ D	G >Fg	G >Fag	Ff	Ff	Pf	G	Pf	3T
HFD83>SGL53/ C	G >Fg	G >Fag	G	G	Ff	G	Fbf	2C
HFD83>SGL53/ D	G >Fg	G >Fag	Ff	Ff	Pf	G	Pf	3T
HFD83>SGL53/ E	Ff >Ffg	Ff >Px	Pf	Pf	Uf	Ff	Uf	4T
HFD83>SHN53/ C	G	G >Fa	G	G	Ff	G	Fbf	2C >3R
HFD83>SHN53/ D	G	G >Fa	Ff	Ff	Pf	G	Pf	3T >3RT
HTP22 / C	Pa	Pa	Fa	Pa	Faf	G	Faf	3D
HTP22 / E	Pa	Pa	Pf	Paf	Uf	Ff	Uf	4T
HTP23 / C	Pa	Pa	Fa	Pa	Faf	G	Px	3D
HTP23 / D	Pa	Pa	Faf	Pa	Pf	G	Pf	3DT
HTP23 / E	Pa	Pa	Pf	Paf	Uf	Ff	Uf	4T
HTP23=MHO23/ B	Pag=Ug	Pag=Ug	Fag=Pg	Pa =Pag	Fag=Pg	Fg =Pg	Pg =Px	4W =5W
HTP23=MHO23/ C	Pa =Pag	Pa =Pag	Fa =Fag	Pa	Faf=Px	G =Fg	Px	3D =4W
HTP23>HTP53/ E	Pa >Ffg	Pa >Px	Pf	Paf>Pf	Uf	Ff	Uf	4T
HTP23>MHO23/ C	Pa >Pag	Pa >Pag	Fa >Fag	Pa	Faf>Px	G >Fg	Px	3D >4W
HTP23>MHO23/ D	Pa >Pag	Pa >Pag	Faf>Px	Pa	Pf	G >Fg	Pf	3DT>4W
HTP23>MHO23/ E	Pa >Pag	Pa >Pag	Pf	Paf	Uf	Ff >Ffg	Uf	4T >4TW
HTP23>SHN23/ C	Pa	Pa	Fa	Pa	Faf	G	Px	3D >5R
HTP23>SHN23/ D	Pa	Pa	Faf	Pa	Pf	G	Pf	3DT>5R
HTP23>SHN23/ E	Pa	Pa	Pf	Paf	Uf	Ff	Uf	4T >5R
HTP23>WOB53/ C	Pa >G	Pa >Fa	Fa >G	Pa >G	Faf>Ff	G	Px >Fbf	3D >2C
HTP23>WOB53/ D	Pa >G	Pa >Fa	Faf>Ff	Pa >Ff	Pf	G	Pf	3DT>3T
HTP23>WOB53/ E	Pa >Ff	Pa >Faf	Pf	Paf>Pf	Uf	Ff	Uf	4T
HTP23>WOB53/ F	Paf>Pf	Paf>Pf	Uf	Uf	Uf	Pf	Uf	5T

(continued)

Table 15. Map unit interpretations (continued)

Soil map unit	Alfalfa	Apples	Spring Cereals	Winter Cereals	Corn	Forage	Vegetables	CLI (Agr.)
HTP53 / B	Pg	Pg	Fg	Ffg	Fg	Fg	Fbg	3W
HTP53 / C	Fg	Fag	G	G	Ff	G	Fbf	2C
HTP53 / D	Fg	Fag	Ff	Ff	Pf	G	Pf	3T
HTP53 / E	Ffg	Px	Pf	Pf	Uf	Ff	Uf	4T
HTP53 / F	Pf	Pf	Uf	Uf	Uf	Pf	Uf	5T
HTP53=MHO23/ B	Pg =Ug	Pg =Ug	Fg =Pg	Ffg=Pag	Fg =Pg	Fg =Pg	Fbg=Pg	3W =5W
HTP53=MHO23/ C	Fg =Pag	Fag=Pag	G =Fag	G =Pa	Ff =Px	G =Fg	Fbf=Px	2C =4W
HTP53=WOB53/ C	G =Fg	Fa =Fag	G	G	Ff	G	Fbf	2C
HTP53=WOB53/ D	G =Fg	Fa =Fag	Ff	Ff	Pf	G	Pf	3T
HTP53>MHO23/ C	Fg >Pag	Fag>Pag	G >Fag	G >Pa	Ff >Px	G >Fg	Fbf>Px	2C >4W
HTP53>MHO23/ D	Fg >Pag	Fag>Pag	Ff >Px	Ff >Pa	Pf	G >Fg	Pf	3T >4W
HTP53>MHO23/ E	Ffg>Pag	Px >Pag	Pf	Pf >Paf	Uf	Ff >Ffg	Uf	4T >4TW
HTP53>SHN53/ C	Fg >G	Fag>Fa	G	G	Ff	G	Fbf	2C >3R
HTP53>SHN53/ D	Fg >G	Fag>Fa	Ff	Ff	Pf	G	Pf	3T >3RT
HTP53>SHN53/ E	Ffg>Ff	Px >Faf	Pf	Pf	Uf	Ff	Uf	4T
HTP53>WOB53/ C	Fg >G	Fag>Fa	G	G	Ff	G	Fbf	2C
HTP53>WOB53/ D	Fg >G	Fag>Fa	Ff	Ff	Pf	G	Pf	3T
HTP53>WOB53/ E	Ffg>Ff	Px >Faf	Pf	Pf	Uf	Ff	Uf	4T
KGP85 / B	Pbg	Pg	Fbg	Px	Pb	Fbg	Fg	3MW
KGP85 / C	Pb	Fbg	Fb	Fb	Pb	Fb	Ff	3MW
KGP85>MLL85/ B	Pbg>Ug	Pg >Ug	Fbg>Pg	Px >Pg	Pb >Pbg	Fbg>Pg	Fg >Pg	3MW>5W
KGP85>MLL85/ C	Pb >Pbg	Fbg>Pg	Fb >Fbg	Fb >Fbg	Pb	Fb >Fbg	Ff >Ffg	3MW>3W
KSV20 / B	Ug	Ug	Pg	Ux	Pg	Pg	Fg	5DW
KSV20 / C	Pag	Ux	Pb	Pab	Pb	Fbg	Pb	5DW
KSV20=QUE20/ B	Pag=Ug	Ug =Ux	Pb =Pg	Pab=Ux	Pb =Pg	Fbg=Pg	Pb =Pg	4DW=5DW
KSV20=QUE20/ C	Pa =Pag	Pab=Ux	Fab=Pb	Pab	Pb =Px	Fb =Fbg	Pb =Px	4DW=5DW
KSV22 / B	Ug	Ug	Pg	Pag	Pg	Pg	Pg	5W
KSV22 / C	Pag	Pag	Fag	Pa	Px	Fg	Px	4W
KSV22=QUE22/ B	Pag=Ug	Pag=Ug	Fag=Pg	Pa =Pag	Fag=Pg	Fg =Pg	Fag=Pg	4W =5W
KSV22=QUE22/ C	Pa =Pag	Pa =Pag	Fa =Fag	Pa	Faf=Px	G =Fg	Faf=Px	3D =4W
LWR52 / B	Ug	Ug	Pg	Pg	Pg	Pg	Pg	5W
LWR80 / B	Ug	Ug	Pg	Pbg	Pg	Pg	Pg	5DW
MGA53 / B	Ug	Ug	Pg	Pg	Pg	Pg	Pg	5W
MGA53 / C	Pg	Pg	Fg	Fg	Ffg	Fg	Px	3W
MHO23 / B	Ug	Ug	Pg	Pag	Pg	Pg	Pg	5W
MHO23 / C	Pag	Pag	Fag	Pa	Px	Fg	Px	4W
MLL85 / B	Ug	Ug	Pg	Pg	Pbg	Pg	Pg	5W
MRW23 / C2	Pa	Pa	Fad	Pa	Px	Fd	Px	3G
MRW23 / D2	Pa	Pa	Px	Pa	Pf	Fd	Pf	3GT
MRW23 / E2	Pa	Pa	Pf	Paf	Uf	Fdf	Uf	4T
MRW87 / C2	Ub	Fb	Pb	Pb	Pb	Fbd	Pb	4G
MRW87 / D2	Ub	Fb	Pb	Pb	Pbf	Fbd	Pbf	4G
MRW87 / E2	Ub	Fbf	Pbf	Pbf	Uf	Px	Uf	4GT
MRW87>FAC23/ C2	Ub >Pa	Fb >Pa	Pb >Fad	Pb >Pa	Pb >Px	Fbd>Fd	Pb >Px	4G >3G
MRW87>FAC23/ D2	Ub >Pa	Fb >Pa	Pb >Px	Pb >Pa	Pbf>Pf	Fbd>Fd	Pbf>Pf	4G >3GT

(continued)

Table 15. Map unit interpretations (continued)

Soil map unit	Alfalfa	Apples	Spring Cereals	Winter Cereals	Corn	Forage	Vegetables	CLI (Agr.)
MRW87>FAC23/ E2	Ub >Pa	Fbf>Pa	Pbf>Pf	Pbf>Paf	Uf	Px >Fdf	Uf	4GT>4T
MRW87>HFD83/ C2	Ub >Fd	Fb >G	Pb >Fd	Pb >Fd	Pb >Fdf	Fbd>Fd	Pb >Px	4G >2C
MRW87>HFD83/ D2	Ub >Fd	Fb >G	Pb >Fdf	Pb >Fdf	Pbf>Pf	Fbd>Fd	Pbf>Pf	4G >3T
MRW87>HFD83/ E2	Ub >Fdf	Fbf>Ff	Pbf>Pf	Pbf>Pf	Uf	Px >Fdf	Uf	4GT>4T
MSW22 / B	Ug	Ug	Pg	Pag	Pg	Pg	Pg	5W
MSW22 / C	Pag	Pag	Fag	Pa	Px	Fg	Px	4W
MSW52 / B	Ug	Ug	Pg	Pg	Pg	Pg	Pg	5W
MSW52 / C	Pg	Pg	Fg	Fg	Ffg	Fg	Ffg	3W
MSW82 / B	Ug	Ug	Pg	Pg	Pg	Pg	Pg	5W
MSW82 / C	Pg	Pg	Fg	Fg	Ffg	Fg	Ffg	3W
NTV23 / B2	Ug	Ug	Pg	Pag	Pg	Pg	Pg	5W
NTV23 / C2	Pag	Pag	Px	Pa	Px	Fdg	Px	3GW
OSW84 / B	Pg	Pg	Fg	Ffg	Fbg	Fg	Fg	3W
OSW84 / C	Fbg	Fg	G	G	Fbf	G	Ff	2C
PGW52 / B	Ff	Fa	G	Ff	G	G	G	2C
PGW52 / C	G	Fa	G	G	Ff	G	Ff	2C
PGW52 / D	G	Fa	Ff	Ff	Pf	G	Pf	3T
PGW52 / E	Ff	Faf	Pf	Pf	Uf	Ff	Uf	4T
PGW52 / F	Pf	Pf	Uf	Uf	Uf	Pf	Uf	5T
PGW52=QUE22/ C	G =Pa	Fa =Pa	G =Fa	G =Pa	Faf=Ff	G	Faf=Ff	2C =3D
PGW52=QUE22/ D	G =Pa	Fa =Pa	Faf=Ff	Ff =Pa	Pf	G	Pf	3DT=3T
PGW52=QUE22/ E	Ff =Pa	Faf=Pa	Pf	Paf=Pf	Uf	Ff	Uf	4T
PGW52>CNW85/ B	Ff >Pb	Fa >Fbg	G >Fbg	Ff >Fbf	G >Pb	G >Fbg	G	2C >3W
PGW52>CNW85/ C	G >Pb	Fa >Fbg	G >Fbg	G >Fb	Ff >Pb	G >Fbg	Ff	2C >3W
PGW52>CNW85/ D	G >Pb	Fa >Fbg	Ff >Px	Ff >Fbf	Pf >Pbf	G >Fbg	Pf	3T >3WT
PGW52>DRT22/ C	G >Pa	Fa >Pa	G >Fa	G >Pa	Ff >Faf	G	Ff >Faf	2C >3D
PGW52>DRT22/ D	G >Pa	Fa >Pa	Ff >Faf	Ff >Pa	Pf	G	Pf	3T >3DT
PGW52>DRT22/ E	Ff >Pa	Faf>Pa	Pf	Pf >Paf	Uf	Ff	Uf	4T
PGW52>DRT22/ F	Pf >Paf	Pf >Paf	Uf	Uf	Uf	Pf	Uf	5T
PGW52>DRT52/ B	Ff >Pg	Fa >Pg	G >Fg	Ff >Ffg	G >Fg	G >Fg	G >Fg	2C >3W
PGW52>DRT52/ C	G >Fg	Fa >Fag	G	G	Ff	G	Ff	2C
PGW52>DRT52/ D	G >Fg	Fa >Fag	Ff	Ff	Pf	G	Pf	3T
PGW52>DRT52/ E	Ff >Ffg	Faf>Px	Pf	Pf	Uf	Ff	Uf	4T
PGW52>QUE22/ B	Ff >Pag	Fa >Pag	G >Fag	Ff >Pa	G >Fag	G >Fg	G >Fag	2C >4W
PGW52>QUE22/ C	G >Pa	Fa >Pa	G >Fa	G >Pa	Ff >Faf	G	Ff >Faf	2C >3D
PGW52>QUE22/ E	Ff >Pa	Faf>Pa	Pf	Pf >Paf	Uf	Ff	Uf	4T
PGW82 / B	Ff	G	G	Ff	G	G	G	2C
PGW82 / C	G	G	G	G	Ff	G	Ff	2C
PGW82 / D	G	G	Ff	Ff	Pf	G	Pf	3T
PGW82 / E	Ff	Ff	Pf	Pf	Uf	Ff	Uf	4T
PGW82>TUO84/ B	Ff >Fbf	G	G	Ff	G >Fb	G	G	2C
PGW82>TUO84/ C	G >Fb	G	G	G	Ff >Fbf	G	Ff	2C
PGW82>TUO84/ D	G >Fb	G	Ff	Ff	Pf	G	Pf	3T
QUE20 / B	Pag	Ux	Pb	Pab	Pb	Fbg	Pb	4DW
QUE20 / C	Pa	Pab	Fab	Pab	Px	Fb	Px	4DW

(continued)

Table 15. Map unit interpretations (continued)

Soil map unit	Alfalfa	Apples	Spring Cereals	Winter Cereals	Corn	Forage	Vegetables	CLI (Agr.)
QUE20 / D	Pa	Pab	Px	Pab	Pf	Fb	Pf	4DW
QUE20 / E	Pa	Pab	Pf	Ux	Uf	Fbf	Uf	5X
QUE20 / F	Paf	Ux	Uf	Uf	Uf	Pf	Uf	5T
QUE20>FUH22/ C	Pa	Pab>Pa	Fab>Fa	Pab>Pa	Px >Faf	Fb >G	Px >Faf	4DW>3D
QUE20>KSV20/ B	Pag>Ug	Ux >Ug	Pb >Pg	Pab>Ux	Pb >Pg	Fbg>Pg	Pb >Pg	4DW>5DW
QUE20>KSV20/ C	Pa >Pag	Pab>Ux	Fab>Pb	Pab	Px >Pb	Fb >Fbg	Px >Pb	4DW>5DW
QUE22 / B	Pag	Pag	Fag	Pa	Fag	Fg	Fag	4W
QUE22 / C	Pa	Pa	Fa	Pa	Faf	G	Faf	3D
QUE22 / D	Pa	Pa	Faf	Pa	Pf	G	Pf	3DT
QUE22 / E	Pa	Pa	Pf	Paf	Uf	Ff	Uf	4T
QUE22>FUH52/ B	Pag>Ffg	Pag>Fag	Fag>G	Pa >Ff	Fag>G	Fg >G	Fag>G	4W >2C
QUE22>FUH52/ C	Pa >G	Pa >Fa	Fa >G	Pa >G	Faf>Ff	G	Faf>Ff	3D >2C
QUE22>FUH52/ D	Pa >G	Pa >Fa	Faf>Ff	Pa >Ff	Pf	G	Pf	3DT>3T
QUE22>FUH52/ E	Pa >Ff	Pa >Faf	Pf	Paf>Pf	Uf	Ff	Uf	4T
QUE22>KSV22/ B	Pag>Ug	Pag>Ug	Fag>Pg	Pa >Pag	Fag>Pg	Fg >Pg	Fag>Pg	4W >5W
QUE22>KSV22/ C	Pa >Pag	Pa >Pag	Fa >Fag	Pa	Faf>Px	G >Fg	Faf>Px	3D >4W
QUE22>KSV22/ D	Pa >Pag	Pa >Pag	Faf>Px	Pa	Pf	G >Fg	Pf	3DT>4W
QUE22>KSV22/ E	Pa >Pag	Pa >Pag	Pf	Paf	Uf	Ff >Ffg	Uf	4T >4TW
QUE52 / B	Pg	Pg	Fg	Ffg	Fg	Fg	Fg	3W
QUE52 / C	Fg	Fag	G	G	Ff	G	Ff	2C
QUE52 / D	Fg	Fag	Ff	Ff	Pf	G	Pf	3T
QUE52 / E	Ffg	Px	Pf	Pf	Uf	Ff	Uf	4T
QUE52>KSV22/ B	Pg >Ug	Pg >Ug	Fg >Pg	Ffg>Pag	Fg >Pg	Fg >Pg	Fg >Pg	3W >5W
QUE52>KSV22/ C	Fg >Pag	Fag>Pag	G >Fag	G >Pa	Ff >Px	G >Fg	Ff >Px	2C >4W
QUE52>KSV22/ D	Fg >Pag	Fag>Pag	Ff >Px	Ff >Pa	Pf	G >Fg	Pf	3T >4W
SGL22 / C	Pa	Pa	Fa	Pa	Faf	G	Faf	3D
SGL22 / D	Pa	Pa	Faf	Pa	Pf	G	Pf	3DT
SGL22>ECY23/ C	Pa >Pag	Pa >Pag	Fa >Fag	Pa	Faf>Px	G >Fg	Faf>Px	3D >4W
SGL52 / C	Fg	Fag	G	G	Ff	G	Ff	2C
SGL52 / D	Fg	Fag	Ff	Ff	Pf	G	Pf	3T
SGL52 / E	Ffg	Px	Pf	Pf	Uf	Ff	Uf	4T
SGL52>HFD52/ C	Fg >G	Fag>Fa	G	G	Ff	G	Ff	2C
SGL52>HFD52/ D	Fg >G	Fag>Fa	Ff	Ff	Pf	G	Pf	3T
SGL53 / B	Pg	Pg	Fg	Ffg	Fg	Fg	Fbg	3W
SGL53 / C	Fg	Fag	G	G	Ff	G	Fbf	2C
SGL53 / D	Fg	Fag	Ff	Ff	Pf	G	Pf	3T
SGL53 / E	Ffg	Px	Pf	Pf	Uf	Ff	Uf	4T
SGL53=SHN53/ C	G =Fg	Fa =Fag	G	G	Ff	G	Fbf	2C =3R
SGL53=SHN53/ D	G =Fg	Fa =Fag	Ff	Ff	Pf	G	Pf	3RT=3T
SGL53=VRN23/1C2	Pag=Px	Pag=Px	Fde=Px	Fde=Pa	Px	Fde=Px	Px	2C =5R
SGL53>ECY23/ C	Fg >Pag	Fag>Pag	G >Fag	G >Pa	Ff >Px	G >Fg	Fbf>Px	2C >4W
SGL53>HFD53/ C	Fg >G	Fag>Fa	G	G	Ff	G	Fbf	2C
SGL53>HFD53/ D	Fg >G	Fag>Fa	Ff	Ff	Pf	G	Pf	3T
SHN23 /1C2	Pa	Pa	Px	Pa	Px	Fde	Px	5R
SHN23 /1D2	Pa	Pa	Px	Pa	Pf	Fde	Pf	5R

(continued)

Table 15. Map unit interpretations (continued)

Soil map unit	Alfalfa	Apples	Spring Cereals	Winter Cereals	Corn	Forage	Vegetables	CLI (Agr.)
SHN23 /1E2	Pa	Pa	Pf	Paf	Uf	Px	Uf	5R
SHN23=SHN53/1C2	Fde=Pa	Fae=Pa	Fde=Px	Fde=Pa	Px	Fde	Px	3R =5R
SHN23=SHN53/1D2	Fde=Pa	Fae=Pa	Px	Pa =Px	Pf	Fde	Pf	3RT=5R
SHN23>HFD53/1C2	Pa >Fde	Pa >Fae	Px >Fde	Pa >Fde	Px	Fde	Px	5R >2C
SHN23>HFD53/1D2	Pa >Fde	Pa >Fae	Px	Pa >Px	Pf	Fde	Pf	5R >3T
SHN23>HFD53/1E2	Pa >Px	Pa >Px	Pf	Paf>Pf	Uf	Px	Uf	5R >4T
SHN23>SHN53/1C2	Pa >Fde	Pa >Fae	Px >Fde	Pa >Fde	Px	Fde	Px	5R >3R
SHN23>SHN53/1D2	Pa >Fde	Pa >Fae	Px	Pa >Px	Pf	Fde	Pf	5R >3RT
SHN23>VRN23/1C2	Pa >Pag	Pa >Pag	Px	Pa	Px	Fde>Px	Px	5R
SHN23>VRN23/1D2	Pa >Pag	Pa >Pag	Px	Pa	Pf	Fde>Px	Pf	5R
SHN27 /1C2	Ub	Pa	Pb	Pab	Pb	Px	Pb	5R
SHN27 /1D2	Ub	Pa	Pb	Pab	Pbf	Px	Pbf	5R
SHN27 /1E2	Ub	Pa	Pbf	Ux	Uf	Px	Uf	5R
SHN27 /1F2	Ub	Paf	Uf	Uf	Uf	Pf	Uf	5RT
SHN27=SHN53/1C2	Fde=Ub	Fae=Pa	Fde=Pb	Fde=Pab	Pb =Px	Fde=Px	Pb =Px	3R =5R
SHN27=SHN53/1D2	Fde=Ub	Fae=Pa	Pb =Px	Pab=Px	Pbf=Pf	Fde=Px	Pbf=Pf	3RT=5R
SHN27=SHN53/1E2	Px =Ub	Pa =Px	Pbf=Pf	Pf =Ux	Uf	Px	Uf	4T =5R
SHN27>SHN53/1C2	Ub >Fde	Pa >Fae	Pb >Fde	Pab>Fde	Pb >Px	Px >Fde	Pb >Px	5R >3R
SHN27>SHN53/1D2	Ub >Fde	Pa >Fae	Pb >Px	Pab>Px	Pbf>Pf	Px >Fde	Pbf>Pf	5R >3RT
SHN27>VRN23/1C2	Ub >Pag	Pa >Pag	Pb >Px	Pab>Pa	Pb >Px	Px	Pb >Px	5R
SHN27>VRN23/1D2	Ub >Pag	Pa >Pag	Pb >Px	Pab>Pa	Pbf>Pf	Px	Pbf>Pf	5R
SHN27>VRN23/1E2	Ub >Pag	Pa >Pag	Pbf>Pf	Ux >Paf	Uf	Px	Uf	5R
SHN53 / C	G	Fa	G	G	Ff	G	Fbf	3R
SHN53 / D	G	Fa	Ff	Ff	Pf	G	Pf	3RT
SHN53 / E	Ff	Faf	Pf	Pf	Uf	Ff	Uf	4T
SHN53 / F	Pf	Pf	Uf	Uf	Uf	Pf	Uf	5T
SHN53=VRN23/1C2	Fde=Pag	Fae=Pag	Fde=Px	Fde=Pa	Px	Fde=Px	Px	3R =5R
SHN53=VRN23/1D2	Fde=Pag	Fae=Pag	Px	Pa =Px	Pf	Fde=Px	Pf	3RT=5R
SHN53=VRN23/1E2	Pag=Px	Pag=Px	Pf	Paf=Pf	Uf	Px	Uf	4T =5R
SHN53>HFD83/ C	G	Fa >G	G	G	Ff	G	Fbf	3R >2C
SHN53>HFD83/ D	G	Fa >G	Ff	Ff	Pf	G	Pf	3RT>3T
SHN53>HFD83/ E	Ff	Faf>Ff	Pf	Pf	Uf	Ff	Uf	4T
SHN53>HTP23/ C	G >Pa	Fa >Pa	G >Fa	G >Pa	Ff >Faf	G	Fbf>Px	3R >3D
SHN53>HTP23/ D	G >Pa	Fa >Pa	Ff >Faf	Ff >Pa	Pf	G	Pf	3RT>3DT
SHN53>SGL53/ C	G >Fg	Fa >Fag	G	G	Ff	G	Fbf	3R >2C
SHN53>SGL53/ D	G >Fg	Fa >Fag	Ff	Ff	Pf	G	Pf	3RT>3T
SHN53>SGL53/ E	Ff >Ffg	Faf>Px	Pf	Pf	Uf	Ff	Uf	4T
SHN53>SHN23/ C	G >Pa	Fa >Pa	G >Fa	G >Pa	Ff >Faf	G	Fbf>Px	3R >5R
SHN53>SHN23/ D	G >Pa	Fa >Pa	Ff >Faf	Ff >Pa	Pf	G	Pf	3RT>5R
SHN53>SHN27/ C	G >Ub	Fa >Pa	G >Pb	G >Pab	Ff >Pb	G >Fb	Fbf>Pb	3R >5R
SHN53>SHN27/ D	G >Ub	Fa >Pa	Ff >Pb	Ff >Pab	Pf >Pbf	G >Fb	Pf >Pbf	3RT>5R
SHN53>VRN23/ C	G >Pag	Fa >Pag	G >Fag	G >Pa	Ff >Px	G >Fg	Fbf>Px	3R >5R
SHN53>VRN23/ D	G >Pag	Fa >Pag	Ff >Px	Ff >Pa	Pf	G >Fg	Pf	3RT>5R
SHN53>VRN23/ E	Ff >Pag	Faf>Pag	Pf	Pf >Paf	Uf	Ff >Ffg	Uf	4T >5R
SHN53>VRN53/ C	G >Pg	Fa >Pg	G >Fg	G >Fg	Ff >Ffg	G >Fg	Fbf>Px	3R >3RW

(continued)

Table 15. Map unit interpretations (continued)

Soil map unit	Alfalfa	Apples	Spring Cereals	Winter Cereals	Corn	Forage	Vegetables	CLI (Agr.)
SHN53>VRN53/ D	G >Pg	Fa >Pg	Ff >Ffg	Ff >Ffg	Pf	G >Fg	Pf	3RT>4X
STW / B	Ucg	Ucg	Uc	Uc	Uc	Uc	Uc	5IW
STW / C	Uc	Uc	Uc	Uc	Uc	Uc	Uc	5IW
TUO52 / B	Ff	G	G	Ff	G	G	G	2C
TUO52 / C	G	G	G	G	Ff	G	Ff	2C
TUO52 / D	G	G	Ff	Ff	Pf	G	Pf	3T
TUO84 / B	Fbf	G	G	Ff	Fb	G	G	2C
TUO84 / C	Fb	G	G	G	Fbf	G	Ff	2C
TUO84 / D	Fb	G	Ff	Ff	Pf	G	Pf	3T
TUO84>CNW85/ B	Fbf>Pb	G >Fbg	G >Fbg	Ff >Fbf	Fb >Pb	G >Fbg	G	2C >3M
TUO84>CNW85/ C	Fb >Pb	G >Fbg	G >Fbg	G >Fb	Fbf>Pb	G >Fbg	Ff	2C >3M
TUO84>CNWX5/ B	Fbf>Pb	G >Fbg	G >Fbg	Ff >Fbf	Fb >Pb	G >Fbg	G	2C >3M
TUO84>FSH52/ B	Fbf>Pg	G >Pg	G >Fg	Ff >Ffg	Fb >Fg	G >Fg	G >Fg	2C >3W
TUO84>OSW84/ B	Fbf>Pg	G >Pg	G >Fg	Ff >Ffg	Fb >Fbg	G >Fg	G >Fg	2C >3W
TUO84>OSW84/ C	Fb >Fbg	G >Fg	G	G	Fbf	G	Ff	2C
TUO84>OSW84/ D	Fb >Fbg	G >Fg	Ff	Ff	Pf	G	Pf	3T
VRN23 /1B2	Pag	Pag	Px	Pa	Px	Px	Px	5R
VRN23 /1C2	Pag	Pag	Px	Pa	Px	Px	Px	5R
VRN23 /1D2	Pag	Pag	Px	Pa	Pf	Px	Pf	5R
VRN23 /1E2	Pag	Pag	Pf	Paf	Uf	Px	Uf	5R
VRN23>CAA23/1C2	Pag>Ug	Pag>Ug	Px >Pg	Pa >Pag	Px >Pg	Px >Pg	Px >Pg	5R >5RW
VRN23>HFD53/1C2	Pag>Fde	Pag>Fae	Px >Fde	Pa >Fde	Px	Px >Fde	Px	5R >2C
VRN23>HFD53/1D2	Pag>Fde	Pag>Fae	Px	Pa >Px	Pf	Px >Fde	Pf	5R >3T
VRN23>SHN53/1C2	Pag>Fde	Pag>Fae	Px >Fde	Pa >Fde	Px	Px >Fde	Px	5R >3R
VRN53 / C	Pg	Pg	Fg	Fg	Ffg	Fg	Px	3RW
VRN53 / D	Pg	Pg	Ffg	Ffg	Pf	Fg	Pf	4X
VRN53 / E	Pg	Pg	Pf	Pf	Uf	Ffg	Uf	4T
WO853 / C	G	Fa	G	G	Ff	G	Fbf	2C
WO853 / D	G	Fa	Ff	Ff	Pf	G	Pf	3T
WO853 / E	Ff	Faf	Pf	Pf	Uf	Ff	Uf	4T
WO853>HTP53/ C	G >Fg	Fa >Fag	G	G	Ff	G	Fbf	2C
WO853>HTP53/ D	G >Fg	Fa >Fag	Ff	Ff	Pf	G	Pf	3T
WO853>HTP53/ E	Ff >Ffg	Faf>Px	Pf	Pf	Uf	Ff	Uf	4T
WO653>HTP53/ F	Pf	Pf	Uf	Uf	Uf	Pf	Uf	5T
WO853>SHN53/ C	G	Fa	G	G	Ff	G	Fbf	2C >3R
WO853>SHN53/ D	G	Fa	Ff	Ff	Pf	G	Pf	3T >3RT
WO853>SHN53/ E	Ff	Faf	Pf	Pf	Uf	Ff	Uf	4T
ZCB	*	*	*	*	*	*	*	*
ZES	*	*	*	*	*	*	*	*
ZGP	*	*	*	*	*	*	*	*
ZGY	*	*	*	*	*	*	*	*
ZNS	*	*	*	*	*	*	*	*
ZSM	*	*	*	*	*	*	*	*
ZUL	*	*	*	*	*	*	*	*
ZZZ	*	*	*	*	*	*	*	*

* interpretation not applicable

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APPENDIX 1.

COMMON AND SCIENTIFIC NAMES OF PLANT SPECIES
(after Roland and Smith 1969)

Trees

Common name	Scientific name
ash, mountain	Sorbus americana Marsh.
beech	Fagus grandifolia Ehrh.
birch, white	Betula papyrifera Marsh.
fir, balsam	Abies balsamea (L.)Mill.
hemlock, eastern	Tsuga canadensis (L.)Carr.
maple, red	Acer rubrum L.
maple, sugar	Acer saccharum Marsh.
oak, red	Quercus borealis Michx.f.
pine, red	Pinus resinosa Ait.
pine, eastern white	Pinus Strobus L.
spruce, black	Picea mariana (Mill.)BSP.
spruce, red	Picea rubens Sarg.
spruce, white	Picea glauca (Moench)Voss

Other Plants

bearberry	Arctostaphylos uva-ursi (L.) Spreng.
blueberry	Vaccinium spp. L.
blueberry, highbush	Vaccinium corymbosum L.
cloudberry	Rubus Chamaemorus L.
foxberry	Vaccinium Vitis-Idaea L.
greenbrier	Smilax rotundifolia L.
huckleberry, black	Gaylussacia baccata (Wang.)K. Koch.
inkberry	Ilex glabra (L.)Gray
raspberry, wild	Rubus strigosus Michx.
sheep laurel	Kalmia angustifolia L.
witherod	Viburnum cassinoides L.
witch-hazel	Hamamelis virginiana L.